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ART. I. — 1. *Astronomical Observations made at the Royal Observatory, Greenwich, in the Year* 1847. Under the Direction of GEORGE BIDDELL AIRY, Esq., M. A., Astronomer Royal.

2. *Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the Year* 1847. Under the Direction of GEORGE BIDDELL AIRY, Esq., M. A., Astronomer Royal.

3. *Reduction of Observations of the Planets made at the Royal Observatory, Greenwich, from* 1750 *to* 1830. Computed by Order of the Lords Commissioners of the Treasury, under the Superintendence of GEORGE BIDDELL AIRY, Esq., M. A., Astronomer Royal. 4to. 1845.

4. *Reduction of Observations of the Moon, from* 1750 *to* 1830. By G. B. AIRY, Esq. 2 vols. 4to. 1848.

5. *Description de l'Observatoire Central de Poulkova.* Par F. G. W. STRUVE. St. Petersbourg, 1845. Fol.

6. *A Cycle of Celestial Objects observed, reduced, and discussed.* By Captain WM. HENRY SMYTH, R. N., &c. 2 vols. 8vo. 1844.

7. *Six Lectures on Astronomy, delivered at Meetings of the Friends of the Ipswich Museum.* By GEORGE BIDDELL AIRY, Esq., M. A., Astronomer Royal. 8vo. 1849.

No one has ever sailed down or up the Thames, and surveyed the stately domes and colonnades of Greenwich Hospital, without admiring the background which the wooded heights of

Greenwich Park give to the landscape, and the contrasting architecture of the brick towers and minarets of the Royal Observatory, placed on a commanding height in the prolongation of the middle area of the Hospital, and thus terminating the vista. But few of these voyagers, we suspect, take time to consider that the British Navy owes an important part of its efficiency not less to the Observatory than to the Hospital,— that Humanity is interested in the former as well as in the latter, — that the sovereign who foresaw the ultimate consequence to certain and safe Navigation of a good system of Astronomical observations, was in this instance as wise and patriotic as he who provided a magnificent asylum for the helpless old age of those who had already often owed the preservation of life to the patient vigils of the astronomer.

The fortunes of Greenwich Park have been as varied as those of most places the property of the crown in the vicinity of a capital. The manor of East Greenwich* was an unenclosed waste until the reign of Henry VI., when a charter conveying 200 acres of it was given to Humphry, Duke of Gloster, the king's uncle, and to Eleanor, his wife.

This curious charter (of which a copy is now before us) is dated 26th March, 1437.† Perhaps the foundations of Duke Humphry's tower still exist; at all events, it is certain that the Observatory is built on the same site, being a position of no inconsiderable strength. It is a kind of peninsula jutting out towards the Thames from the general level of Blackheath and the southern district of the Park, with which it is connected by a tolerably narrow isthmus, whilst the ground slopes rapidly in every other direction from the little table-land occupied by the Observatory. The natural strength of the situation has evidently been increased by lofty retaining walls on the north, south, and west sides — sustaining both the building and a part of the

* Deptford was *West* Greenwich.

† Rot. Patent., 15 Hen. 6., M. 7. As a specimen of the quaint latinity, we quote the following permission: — 'Muris petra et calce 'includere et firmare, et muros illos kernellare[1], batellare, et turrellare, 'ac quandam Turrim infra Parcum prædictum similiter petra et calce 'de novo[2] construere, edificare, et tam turrim illam sic de novo con- 'structam et edificatam quam dictum manerium sive mansionem ut 'præmittitur inclusum, firmatum, kernellatum, imbattelatum, et tur- 'rellatum, tenere possint sibi et hæredibus suis prædictis in perpe- 'tuum,' &c. Copied from the original in the Tower.

[1] *Kernellare*, from *créneaux* (Fr.), to make battlements for defence.

[2] Hence it appears that there had been some still older structure.

pleasure ground.* This gives to the place an air of great seclusion and privacy, as well as apparent strength, not less suitable to its present than to its original destination — freedom from interruption and indiscreet curiosity being an inestimable advantage in an institution dedicated to such purposes in the midst of one of the most public resorts in the neighbourhood of the metropolis. Mr. Francis Baily states†, on the authority of some MS. notes in a copy of Maskelyne's 'Observations,' that the tower was 'repaired or rebuilt by Henry VIII. in 1526; 'that it was sometimes the habitation of the younger branches 'of the royal family, sometimes the residence of a favourite 'mistress, sometimes a prison, and sometimes a place of defence. 'Mary, fifth daughter of Edward IV., (betrothed to the King 'of Denmark) died at the Tower in Greenwich Park in 1482. 'Henry VIII. visited "a fayre lady whom he loved" here. In 'Queen Elizabeth's time it was called *Mirefleur*. In 1642, 'being then called Greenwich Castle, it was thought of so 'much consequence as a place of strength, that immediate steps 'were ordered to be taken for securing it. After the Restora-'tion, Charles II., in 1675, pulled down the old tower, and 'founded on its site the present Royal Observatory.' It should be noticed, that there was a distinct royal residence on the same manor, between Duke Humphry's Tower and the river, called *The Pleasaunce*, which was frequented by Queen Elizabeth and other sovereigns.

Astronomy is a subject so palpable in its results, and conversant with facts so astounding yet so plain, that there is scarcely any age or period of the world in which most men have not, at some time or other of their lives, been drawn to it with a strong feeling of interest and awe. Perhaps some readers may be able to sympathise with our juvenile recollections of a time when the towers and walls of Greenwich Observatory seemed to us to enclose a profound yet tempting mystery, which we hardly dared hope ever to explore; or when we traversed the weary diameter of Paris to gaze on the Observatory built by Cassini, and directed by Arago, or trod with respect the very stones of the *Rue du Bac*, at that time inhabited by Laplace. Considering that the practical details of observatories are witnessed by comparatively few persons, and that of those so privileged still fewer can pick up anything like an intelligent idea of what is going on, and how the astronomical paraphernalia they

* An accurate map of the grounds and buildings has been constructed and engraved by the present Astronomer Royal.

† Life of Flamsteed, p. 39, note.

behold are made to yield a knowledge of the facts which they read of in books at home, we have thought that an attempt might be made to make this branch of knowledge accessible to all who have any acquaintance with its elements, and to reveal some of the mysteries of the art and practice of an astronomical observer, to many who may never think of becoming either profound astronomers or practised observers themselves.

We propose, therefore, in the present article to consider, *first*, what it is which the practical astronomer professes to determine; *secondly*, to notice the instruments which he uses in order to make these determinations; and, *thirdly*, to attempt a sketch of the economy and management of an Observatory, its *personnel*, as well as its *matériel*,—which we shall illustrate by a more especial reference to the National Observatory of Greenwich. The two first heads we will make as brief as may serve to a due understanding of our third and principal topic.

I. Practical astronony has two great branches. That to which the telescope may be said to have given birth; and that which is *comparatively* independent of it. Before the invention of the telescope, Copernicus had announced the true system of the world,—namely, that the sun is the centre of a planetary system, of which the earth is one member, with the moon circulating round it; and that the fixed stars are altogether independent and placed at a vastly greater distance. The periods and comparative distances of all the principal planets were known; as well as the deviation of the orbits of some of them from a circle; and a certain approximation was made to the singularly irregular form of the lunar path; eclipses could be calculated with tolerable accuracy; latitudes and longitudes roughly ascertained; and even such delicate phenomena as the apparent displacement of the heavenly bodies by refraction, and the general excessively slow motion of the fixed stars relatively to a point altogether imaginary, termed the *equinoctial point*, had been clearly discovered and imperfectly measured.

But when the telescope gave to man almost a new sense, and enabled him to examine objects at a distance, with the advantage of a vast magnifying power, a new department of practical astronomy arose. Astronomers had hitherto only seen the rude outline of our own system, and the still ruder landmarks of the starry firmament. The telescope not only revealed thousands, nay millions of bodies, hitherto unseen because invisible, but it displayed complications of arrangement and feature, which gave, as it were, a *colouring* to the broad natural outlines with which hitherto the astronomer had to content himself. The moons of Jupiter and Saturn, the rings of the latter, and the varying phases

of Venus and Mercury were, of course, among the first points of telescopic vision, — and a glorious insight they gave into the arrangements of our system. Then the actual physiognomy of the moon, the sun, and some of the nearer planets, after which the unaided eye could only vainly strain itself, and desire for more help, opened fresh fields of inquiry. More lately, the indefatigable study of the fixed stars and nebulæ — with the aid of powerful instruments, and especially by the two Herschels, — has enlarged so prodigiously the boundaries of our knowledge and of rational and interesting speculation, that it is impossible to overrate the charms of this branch of practical astronomy. It has, however, been so fully considered in a recent article* on Sir John Herschel's 'Observations at the Cape of Good Hope,' that we gladly abstain from further notice of it at present; desiring to concentrate the reader's attention on the department of practical astronomy cultivated alike by the ancients and moderns before and since the invention of the telescope, and which consists in the *measurement of space* with reference to the places of the heavenly bodies, and the comparison of those places with theory.

Whoever would record the positions of the heavenly bodies at any moment, and compare them (as regards their apparent movements relatively to one another) at some future time, must do so by referring them to certain lines or directions, which may be regarded as fixed and known.

The easiest reference is found by a comparison with that which is familiarly used to determine the position of places on the surface of the earth, or Latitude and Longitude. Though the terrestrial and celestial globes are not only different in their delineations (as a certain lady of fashion is said to have discovered, when she returned her globes to the maker because they were not *a pair*), but also in their *idea* or principle, the apparent place of a star on the celestial sphere may be defined by two angles, called Declination and Right Ascension, corresponding accurately to those of Latitude and Longitude, which determine the spot on the surface of the earth occupied (for example) by New York or Mont Blanc. Whirl a globe round its axis, and a pencil approached to the surface will touch all places having the same Latitude, — all stars having the same Declination. Stretch a thread tightly from pole to pole, and it will meet the position of all places on the surface having a common Longitude, and (on the celestial globe) of all stars having the same Right Ascension. The pencil mark will meet the thread but in one point; thus

* Ed. Rev. vol. lxxxviii. p. 104.

the place is fixed completely by two angles, measured each from the centre of the globe along those circles;—the *zero point* of reference for Right Ascension being determined by a particular point called the Vernal Equinox, or the first point of Aries: Whilst on the terrestrial globe the Longitudes are measured from the meridian of Greenwich.

If we imagine the eye placed in the centre of a celestial globe, and the fictitious stars to be each pierced with holes through its surface, that eye would, if the globe were properly turned, see each star in the heavens through its appropriate hole. Such, in fact, is all the information which a celestial globe is intended to convey,—the idea of direction, or apparent place,—not at all that of distance. The moving lights of heaven,—sun and moon, planets and comets,—change, from day to day and from hour to hour, their seeming place. To be able to define accurately their apparent place at a given instant, is the first aim of the practical astronomer. This is done by ascertaining their Declinations and Right Ascensions,—the former being the apparent angular distance of a star from the celestial equator; the latter, the angle formed by the meridian (or line traced by the thread stretched from pole to pole and touching its place) with some other meridian, drawn arbitrarily or otherwise among the stars; just as in geography we, in Britain, refer the longitude of places to that of Greenwich. The astronomer, having traced the motions of an erratic star or planet on the apparent surface of the sphere, possesses the data for testing the truth of astronomical theories, whether of merely *formal* theories like those of epicycles and deferents (as they were called), or of *physical* theories like those of vortices and of gravitation. The apparent complication of these movements is in nature exceedingly great: consequently, the coincidence of *observed* with *predicted* places is the best test of theories; and thus the perfection of our observations becomes essential for the establishment of theories, especially of that greatest of Physical Laws hitherto detected by man—the law of Gravitation.

But the power of tracing with accuracy the places of the heavenly bodies on the apparent vault of the sky, and therefore with reference to one another, carries us a step further, even to the measurement of the impassable and seemingly illimitable spaces which divide them from us. We cannot indeed apply a rod or chain to measure the moon's distance, but we may do as those surveyors did who measured the height of Mont Blanc ere it had been ascended. Our earth, to be sure, is very small, compared with the spaces which separate from us even the nearest of the heavenly bodies, and a mere mathematical point as compared to the distances of the fixed stars. It is, however, so large that the moon,

for instance, is very visibly displaced as we regard her from one part of the earth or another. The direction of the earth's axis is a perfectly well ascertained line. If we look in its direction from any part of the earth's surface, the whole firmament appears to revolve round it by the diurnal movement; in this direction, then, a telescope may be accurately pointed. Let this telescope next be turned on the moon:—the angle which the telescope describes may be called the moon's north (or south) polar distance. If this experiment were performed *simultaneously* at Greenwich and at the Cape of Good Hope, the moon would appear further *north* from the latter than from the former station; for the same reason that if we go from the lower to the upper window of a house, the neighbouring chimney, which in the former case seemed to touch the distant weathercock, now falls far beneath it. Thus also, the moon when she passes centrically over a fixed star, as viewed by a spectator near the equator, will leave it uneclipsed to an astronomer in the Arctic or Antarctic Seas, passing to the south of it in the one case, and to the north in the other. This seeming displacement is called *parallax*. The greatest amount of parallax which the moon could possibly have, would be, if we imagine a spectator placed at either pole of the earth. The displacement to each, compared to the moon's position as seen from the earth's centre, would be about a degree, or the whole angle under which the earth's diameter (8000 miles) is seen at the moon, is two degrees.

In the same manner the parallax of the planet Mars and the planet Venus, when nearest to the earth,—and even the distance of the sun,—may be ascertained by observations made, *under favourable circumstances*, at different parts of the earth's surface: and since we are personally confined, by a physical necessity, to the surface of our globe, we can only make the best of the limits of voluntary excursion which Nature and Providence have assigned to us.

But though our voluntary perigrinations be confined to narrow limits,—although our globe is but a speck in space, and although a voyage from pole to pole would be, by the shortest route, but some paltry 12,000 miles,—fortunately for astronomy, we make an annual tour in the course of our orbital revolution round the sun, which carries us to two points of space nearly 200 millions of English miles apart. Seated on this comfortable railway carriage called the globe, we are actually tearing through space at the rate of nineteen miles *per second*, or 67,000 miles an hour; and the distance and position of the sun being known at any time by observation, the actual distance between the points of space occupied by us, the travelling spectators, on any two days, is accurately known. For instance, on

the longest and on the shortest day, our positions are, as we have said, nearly 200,000,000 miles apart. Of course this annual trip makes a vast change in the celestial scenery of the bodies nearest to us. The other planets, if they did not move themselves, would appear to do so by our own relative motion;—as it is, they have apparent movements, resulting from *their own*, as well as from our earth's orbital motions. But the most extraordinary fact is this: that, notwithstanding the vast space which separates the position of our earth at opposite seasons of the year, the scenery of the fixed stars is noways sensibly distorted by our change of place. The vast distance from the earth to the sun is seen from the nearest fixed star under an angle probably not exceeding *one second* — which is about *one two-thousandth* of that which the sun's or moon's disc subtends! This is called the *annual parallax;* and, admitting it to exist, the nearest fixed star must be 206,000 times more distant from the sun than our earth is; or 5,000,000,000 diameters of our globe, or about *twenty billions* of English miles!

Thus our knowledge of the distance of the fixed stars (the greatest to which the art of mensuration has yet extended) depends upon the diameter of the earth's orbit; which, again, is deduced from a triangle having the earth's diameter for one of its sides. But how is this last quantity determined?

The measurement of the earth was one of the most justly celebrated problems of antiquity. The science of *geometry* owes its name to this single application. We must refer to previous papers in this Journal* for its history and solution. But we may observe that the fertile principle of triangulation is here, again, the basis of operation. At first, extensive though rude measurements of considerable spaces of the earth's surface were attempted. Norwood, about 1635, *guessed*, rather than ascertained, the distance from London to York, by measuring with a chain along the highway, allowing for its bends and obliquities, and sometimes merely by pacing. But the ingenious Snell made a better determination, by ascertaining a comparatively short distance by means of *exact* measurement†, and extending that measure, by a series of connected triangles, to a comparatively large portion of the meridian,—a process improved, in later times, by measuring a *second* base line near the close of the operation, and comparing it with the result of calculation carried forwards through the whole intermediate network of tri-

* Ed. Rev. vol. v. p. 372.; vol. ix. p. 373.; vol. lxxxvii. p. 392.

† *Eratosthenes Batavus*, 1617. The measured base on which Snell ultimately depended was only 87 perches (of 12 Rhineland feet each), or about 1080 English feet. (Delambre, 'Hist. d'Astron. Moderne,' ii. 97.

angles. A coincidence of the calculated and observed results gives the very highest probability to the accuracy of the whole operation. From such an extended arc of the meridian the dimension of the whole globe is inferred, by reasoning which we cannot stop here to explain, but which in the simple case of the earth, being supposed truly spherical, is exceedingly easy and direct.

Now on these processes we have two remarks to make. *First*, that the operations of practical astronomy, as far as they regard the fixation of the distances and positions of the heavenly bodies, depend upon one single fundamental measurement of space, just as in surveying land with a Theodolite; — that measurement being the single measured side of the network of triangles which (rigorously speaking) is all that is required to measure an arc of the meridian, and consequently the axial diameter of our globe. Any error in that single fundamental linear measure is *proportionally transmitted* through all the succeeding calculations. The rod used in measuring a base line is commonly somewhere about ten feet long: And the astronomer may be said truly to apply *that very rod* to mete the distance of the stars! An error in placing a fine dot which fixes the length of the rod, amounting to *one five-thousandth* of an inch (the thickness of a single silken fibre), will amount to an error of 70 feet on the earth's diameter, of 316 miles on the sun's distance, and to 65,200,000 miles on that of the nearest fixed star! The *second* point to which we would advert is, that as the astronomer in his observatory has nothing further to do with ascertaining *lengths* as distances (except by calculation), his whole skill and artifice are exhausted in the measurement of *angles;* for it is by these alone that spaces inaccessible can be compared. *Happily, a ray of light is straight;* were it not so (in celestial spaces at least), there were an end of our astronomy. If we may be permitted a pleasantry on such a subject, it is our *beam* compass, and it is inflexible as adamant — which our instruments for ascertaining its position unfortunately are not. Now an angle of *a second* (3600 to a degree) is a subtle thing. It is an apparent breadth utterly invisible to the unassisted eye, unless accompanied with so intense a splendour (as in the case of the fixed stars) as actually to raise by its effect on the nerve of sight a spurious image having a sensible breadth. A silk-worm's fibre, such as we have mentioned above, subtends an angle of a second, at $3\frac{1}{2}$ feet distance; a cricket ball $2\frac{1}{2}$ inches diameter must be removed, in order to subtend a second, to 43,000 feet, or about 8 miles, — where it would be utterly invisible to the sharpest sight, aided even by a telescope of some power. Yet it is on the measure of one single second that

the ascertainment of a sensible parallax in any fixed star depends; and an error of $\frac{1}{100}$ of that amount (a quantity still unmeasurable by the most perfect of our instruments) would place the star too far or too near by 200,000,000,000 miles,—a space which light requires 118 days to travel.

The practical astronomer is not, however, constantly or principally employed in directly measuring the distances of the heavenly bodies, or the dimensions of the earth. The earth's diameter is now known with very great exactness, and the distance of the sun cannot become much better known, at least until the recurrence of the rare phenomenon called the transit of Venus. But the astronomer is engaged in ascertaining from time to time, with the utmost accuracy, the positions of the so-called *fixed* stars (which have *all* however, without exception, some small apparent motions), because these are the true landmarks of the heavens, to which the positions of all other bodies, sun, moon, and planets, are constantly referred;—and likewise in comparing the positions of those moving bodies, from time to time, with tables, constructed from the best existing theories of their motions, in order that such theories may be improved. The great usefulness of such improved theories will be seen in the course of the following pages.

II. We now proceed to give a general idea of the instruments used for ascertaining the position of a heavenly body in the sky, by means of the angles of Right Ascension and Declination, of which we have already spoken.

The ancients reckoned the right ascension of the heavenly bodies from that of a certain bright star in the constellation called *Aries*, which star nearly coincided with the position of the sun at the equinox of spring. There is at present no star in that place; yet astronomers know how to find the equinoctial points (as they are called) in the sky, and to reckon right ascensions from them, just as we count longitudes on the earth's surface from the meridian of Greenwich.

Imagine a straight and perfectly vertical wall built truly north and south, or in a plane coinciding with the earth's axis. A spectator looking carefully along one side of such a wall would observe at the same instant all celestial bodies, having the same right ascension, to pass out of sight behind the edge of the wall (in consequence of the apparent diurnal motion of the heavens), supposing that he looked along the eastern side; or to start simultaneously into view if he watched them at the western side. Their apparent passage across the plane of the wall may be called their *transit across the meridian*. Each successive hour, nay, almost every minute, will bring some new object to the same position

of passing the meridian; and since the diurnal motion of the stars is *absolutely* uniform, the intervals of their passages, measured by a good clock, will give a proportional measure of the angles between the meridians belonging to each object respectively. In fact, whether the clock go true or not, provided only that it go *regularly*, we have but to observe the interval of time between the passage of a star across the meridian and its return to it again; and considering that in that time the heavens must have made an entire revolution of 360°, we may by the rule of three find the angle corresponding to the intermediate place of any star whose time of transit by the clock has been noted. The entire period of revolution of the heavens from a star passing the meridian to its return, is called a *sidereal day*; one twenty-fourth of this is a sidereal hour, and so forth.

Now, if instead of merely *looking along* the side of a wall — an operation whose accuracy is comparable to that of observing the sun's shadow formed by the *style* of a common dial, and which is evidently the same in principle — we use a telescope with cross wires in its focus, and which is compelled to move always against this wall, we have a better kind of observation. If this telescope further carry with it an index which points to the angles of elevation, to which it is pointed at the instant that the star passes the meridian, the angles being drawn or engraved upon an arc of the quadrant, measuring degrees with the vertical, we ascertain the two determining angles or *co-ordinates* at the same moment; that measured by the time of the meridian passage or transit giving the *Right Ascension*, and the angle with the vertical (to which, when a certain angle is added, we have the angle with the direction of the earth's axis) giving the *North Polar Distance*. This method was due to Römer, or possibly to Römer and Picard jointly, and was practised by Flamsteed for thirty years, from 1689 till his death.

A method in some respects preferable consists in using two separate instruments for these determinations. At all events a good Transit Instrument (as it is called) cannot be made without allowing the telescope, which is to move strictly in the plane of the meridian, to be secured to a horizontal axis firmly sustained at both ends; and when this is done, *the meridian wall which we have supposed may be entirely dispensed with.* The transit instrument, the simplest and most effective of all astronomical apparatus, was the invention of Römer, an eminent Danish astronomer, about the year 1690.* It was introduced at Greenwich by Halley, the second astronomer royal, in 1721, but

* Horrebowii Opera, iii. 48.

was evidently but little known in England some years later, being described by the visitors of the Royal Observatory, in 1726, as 'a curious telescopic instrument.'* Dr. Pound had, however, used one previously, which was probably the earliest in England. Halley's instrument is still preserved at Greenwich — 5 feet long, 1¾ inches aperture. The telescope is not attached at the middle point of the axis, an arrangement not easily to be accounted for. The transit instrument has three adjustments for placing it correctly in the meridian; but for an account of these we must refer to more special treatises. In modern instruments five or seven vertical and equidistant wires are placed in the field of view, so that the apparent passage of the star across all may be noted, and the average taken.

The Clock, one of the greatest of modern inventions, is the invariable and most essential companion of the transit instrument. The invention of the pendulum clock is somewhat obscure; but in the hands of Huygens and Hooke it first became practical, and this was only about the year 1657, or eighteen years before the foundation of Greenwich Observatory (August 10. 1675). The earliest English pendulum clocks (after those of Hooke) were probably by Tompion. Flamsteed had two — with pendulums thirteen feet long (beating two seconds), and they were wound up but once a year. He did not regard an error of ten seconds in the determination of time as excessive†; and when his clocks were out of order they would err as much as eleven minutes per day.‡ In Halley's time they were not much better. They had no provision for going during the time of winding; and the bob often struck the sides of the case, and thus altered the rate! A *journeyman clock*, to take seconds from the principal clock, having a loud beat, and probably striking a bell at the full minute, appears to have been used by Römer. But Graham, one of the most eminent of British artists, subsequently brought his timekeepers almost to a level, in point of performance, with those of the most recent times, as the clock rates in Bradley's time (1750) clearly show.§

* 'Rigaud's Life of Bradley,' p. lxxii. A learned friend has remarked to us that 'curious,' in the scientific language of the day, meant 'accurate and delicate'; which is no doubt true. But we are entitled to infer that had the transit instrument been familiarly known at that time it would have been referred to by its own name. It was described as 'curious,' because it was really more accurate than the instruments then in common use.

† Baily's Flamsteed, p. 45. ‡ Ib. p. 114.

§ See 'Bessel Fundam. Astron.,' p. 91. Bradley's clock was made by Skelton, Graham's pupil.

For measuring altitudes (and hence polar distances) a divided brass arch of ninety degrees (or a quarter of a circle) has been in almost immemorial use. But though it may appear sufficient in theory for measuring all angles between the horizon and zenith, it is found to be practically much better to employ complete circles, divided from 0° to 360°; whereby many errors arising from the imperfect division, the inaccurate centering, the flexure and the deterioration by use, of the instrument, are avoided. Circular instruments are most commonly confined to the meridian, the circle itself (like a wheel with spokes) turning along with the telescope, and its position being ascertained by six equidistant microscopes, used for noting the divisions engraved on the circle; they are fixed to the solid wall or pier, with which the circle is connected by a horizontal axis passing through the pier.

The *zenith sector*, as usually constructed, is merely a telescope of considerable length connected with an arc to which the movement of the telescope, carrying cross wires, may be referred for measuring the zenith distances of stars when that angle does not surpass a few degrees. Such a construction admits of the use of very long telescopes and proportionally large divisions on the *limb* or arch, which, being exceedingly short, is not thereby rendered unwieldy. It was by the use of such an instrument that Bradley made his celebrated discoveries of aberration and mutation. It is likewise an effective instrument for taking latitudes in trigonometrical surveys.

Altitude and azimuth circles are those which admit, by their construction, of taking elevations or zenith distances, not only in the meridian, but in any other vertical plane, whose inclination with the meridian or azimuth they likewise determine. They have advantages, especially as portable instruments, and where a consecutive series of observations in one spot, and for a lengthened time, is intended: they have likewise the important advantage of *reversion*, or the capacity of being used on the meridian with the face alternately east and west. But, on the whole, such instruments have been little employed in fixed observatories; partly from the difficulties of construction when the dimensions are very great, and partly from the labour of calculation indispensable for deducing the true place of a heavenly body from such observations. There have, however, been three great exceptions, in which excellent work has been done with the altitude and azimuth circle: — the five-feet circle at Palermo, made by Ramsden, and used by Piazzi for his catalogue of the stars; the eight-feet circle at Dublin (planned by the same maker) em-

ployed by Brinkley in ascertaining the small apparent motions of the fixed stars; and the recently-constructed altitude and azimuth circle used by Mr. Airy, at Greenwich, for observing the moon, as we shall presently mention.

The various instruments we have now described all require peculiar *adjustments* before they can be applied to any useful purpose. The transit instrument, and the circle or zenith sector must be capable, for instance, of being placed accurately in the meridian, and the telescope accurately adjusted to the zenith point, before right ascensions can be obtained by means of the one, or polar distances by the other. The limits and popular nature of this article forbid any attempt to enter into these important *minutiæ;* but the reader may find them very plainly and clearly expounded in Sir John Herschel's excellent elementary treatises on astronomy.* We will only remark here, that the verification of the transit instrument is the more easy and simple; the determination of zenith points less direct, especially in instruments like the mural circle, which are incapable of being turned round so that the face of the instrument may be either *east* or *west* whilst the telescope is directed to an object on the meridian. But circles fixed to walls cannot be so used†; and the zenith and horizontal points are then very ingeniously determined, by observing a star alternately by direct vision through the telescope, and then as its image appears reflected from a basin of quicksilver. By a simple optical law the position of the telescope, exactly intermediate between the two observations, is the horizontal position.

But the north polar distance of a body may be inferred independently of a knowledge of the zenith point. The instrument called the Equatoreal telescope is arranged with this view. This

* Some excellent practical information in a popular form may also be obtained from Captain Smyth's 'Celestial Cycle.'

† Bradley determined his zenith point by shifting his sector bodily from an east to a west wall; and this method was practised at Greenwich down to the time of Maskelyne; and the result was used for finding the index error of the quadrants. Bradley's skill is shown by the accuracy of his determination of the latitude of Greenwich when compared with the most recent results:—

	Latitude Greenwich.
Bradley, from his annual observations -	51° 28′ 39½″
Bessel, from Bradley's obs. - - -	51 28 39·6
Maskelyne ('Requisite Tables,' 1802, p. 199.)	51 28 40·0
Pond - - - - -	51 28 39·0
Airy, from 5862 obs. - - -	51 28 38·2

Flamsteed, in 1676, made it 51° 28′ 10″ by his sextant; but in 1690, 51° 28′ 34″ by the mural arc. (Baily, p. 346.)

telescope is attached to a firm axis or shaft parallel to the earth's axis,—so that, as it revolves, the telescope follows the natural diurnal course of the stars. The *polar axis*, as it is called, is now generally connected with a piece of clock-work (of a peculiar construction, somewhat resembling that of a common *jack*, and without a pendulum; so that the motion takes place without jerks or starts of any kind*), which causes the telescope to follow, spontaneously as it were, the motion of the object, and thus keep it always in the field. The right ascension is shown by an index connected with the polar axis, and pointing to an hour circle; the north polar distance by an index connected with the telescope itself. Owing to the inevitable tendency to flexure of the oblique-lying polar axis, and the intricacy of the adjustments, the equatoreal construction is never used for determining with *extreme* accuracy the places of celestial objects; but it is still most useful,—*first*, for ascertaining the places of comets and other erratic bodies which cannot always be seen on the meridian (and by comparing their transits across the wires of the telescope, in *any* fixed position, with that of known stars, their places may be very accurately estimated); and, *secondly*, for mounting powerful but unwieldy telescopes, when the divided circles become the readiest means of pointing such telescopes to given objects. The largest refractor in the world—that at Pulkowa, near St. Petersburg, made by Merz and Mähler, 14·93 inches aperture—is thus mounted; so are the great refractor of the Washington National Observatory, U. S., and the Northumberland Telescope, at Cambridge. Mr. Lassell, of Liverpool, has been successful in mounting a ponderous reflecting telescope, of two feet aperture, in the same way.†

III. Such, very briefly, are the principal instrumental means of making astronomical observations. We shall now say something of observatories and their arrangement; taking the National Observatory of Greenwich as our chief example, because one of the most extensive and most systematic in the world, the most important in its *past* results to astronomical science, and because naturally the most interesting to our readers.

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* The Equatoreal at Liverpool is moved by *water power*, the velocity being uniformly maintained by Sieman's ingenious regulator. In the more usual construction of equatoreal clocks, the friction of balls replaces the retarding action of the air's resistance in the common jack.

† Flamsteed's sextant was mounted with a polar axis merely for the convenience of directing it to the heavens. (See engraving in 'Historia Celestis,' vol. iii.) Römer constructed a well-devised equatoreal instrument (under that name) in 1690. See Horrebow, *Opera*, iii. 39.

Observatories were originally little else than what their Latin name (*specula*) imports, — look-out towers raised above surrounding objects and low vapours. Galileo showed the satellites of Jupiter from the lofty campanile at Venice; and all the early observatories were built somewhat on the same plan. That of Copenhagen, for instance (founded in 1632), was 115 Danish feet in height, and 48 feet in diameter; a stair, or rather a spiral passage, led to the top, so that, as at Venice, it could be mounted on horseback, which the Czar Peter really did, and the empress Catherine in a six-horse coach! But far graver inconveniences than trees or fogs attended these lofty towers. The Danish astronomer, Römer, was so persecuted by the wind that he was glad to shelter his really useful instruments in his own house, where his principal observations were made. Finally, the Observatory having taken fire, the whole of the valuable manuscripts were destroyed in consequence of the inaccessibility of the building.

Römer was, perhaps, the most original and ingenious astronomer of his day. He was the discoverer of the progressive motion of light, and the undoubted inventor of the transit instrument. But, besides this, he designed and executed the first meridian circle with fixed microscopes, on a plan which appears almost unexceptionable, and which anticipated the ultimate progress of practical astronomy by more than a century. He also placed a transit instrument at right angles to the meridian, for the purpose of determining declinations as well as right ascensions by the use of the clock — a method, the beauty and value of which are only now beginning to be appreciated. Römer's little 'Tusculan,' or rural observatory, as described by his pupil Horrebow*, is admirably contrived, with little show; and it was here that he made that three days' course of observations (*Triduum Roemeri*) 20—23rd Oct. 1706, which, owing to the fire already mentioned, has descended to us as almost the only relic of his observatory work. It consists of determinations of the places of the sun, moon, planets, and eighty-five fixed stars, and is truly, as Delambre has described it†, 'a work worthy to serve 'as a model.' The right ascensions were observed with all three wires of the transit instrument, — a precaution often neglected even by Bradley fifty years later. The piers of the instrument were blocks of fir wood, the axes were hollow cones of iron. We may here note, that observatories like that of Römer of small pretension, and in by no means favourable situations, have often

* Opera, tom. iii. cap. xvi.

† Hist. Astron. Moderne, ii. 655.

produced greater results than national establishments, furnished at a lavish expense, but for ostentation rather than use; or, at least, abandoned to the care of indolent or mercenary guardians. Thus Catherine II. ordered for the observatory of St. Petersburg the finest and most expensive instruments which London artists (then the first in the world) could produce; but having done so, and filled the journals with announcements of her liberality and love of science, they were allowed to rust in their cases!* On the other hand, small private observatories, like Mr. Lassell's at Liverpool (in one of the worst climates in Britain), and Mr. Bishop's, at the Regent's Park, directed by the zeal of Mr. Hind —not to mention Sir William and Sir John Herschel's—have produced some of the most interesting, and, at the same time, most optically difficult modern discoveries. Captain Smyth's Observatory, described in his 'Cycle of Celestial Objects,' deserves mention as an excellent model for a simple private establishment, and his work as a useful guide to the amateur. 'A man may prove a good astronomer,' says Captain Smyth, 'without possessing a spacious observatory. Thus Kepler was 'wont to observe on the bridge at Prague: Schoeter studied 'the moon, and Harding found a planet, from a *gloriette*; while 'Olbers discovered two new planets from an attic of his house.'

The observatories of Paris, Milan, Bologna, and indeed of Greenwich itself, attest the formerly universal practice of giving to these edifices the form of a lofty tower with a flat roof.

The introduction of *fixed* instruments, — that is, of instruments that rest upon piers (like a transit), or are attached to stone walls (like a mural quadrant or circle), — necessitated a very different construction; and the principally effective part of most modern observatories consists of a range of rather low buildings running east and west, so as to contain but one chamber in breadth from north to south. Thus each apartment having a slit in the roof and two walls may command the zenith, and the north and south horizon. Revolving domes containing a slit, for the shelter of equatoreal telescopes, are often raised up to the second floor, the instrument resting upon a very solid pillar of masonry carried up from the ground.

A foundation of sand, clay, or gravel, has usually been preferred to solid rock, which is supposed to convey injurious tremors more readily to the instruments. The Edinburgh Observatory, however, which is built on a rock, through which there now passes at no great distance a railway tunnel, is stated

* Delambre, Hist. Astron. Moderne, p. 620.

by Professor Smyth to be in no way injured by this seemingly untoward circumstance.

The National Observatory of Russia, at Pulkowa, about twelve English miles from St. Petersburg, is probably the most elaborately complete modern observatory, having been erected, with the usual liberality of the Emperor, at a cost of no less than 2,100,000 paper roubles, or about 80,000*l.* sterling*, and endowed with a revenue of 2,500*l.* a year.

It consists of a great central building, nearly in the form of a cross, composing the observatory proper, with apartments for observation and computation. It is surmounted by a noble dome, which contains the Great Refractor,—the triumph of the Munich workshops. The special aim of this Observatory is Sidereal Astronomy. A smaller dome surmounts the east and west arms of the cross. Two extensive wings, containing the habitations and offices of the entire personal establishment, extend the imposing frontage, which is in the Grecian style, to more than 800 feet. It is the noblest edifice ever yet erected to the purposes of science. The personal establishment, under the able direction of M. Struve, includes fourteen, besides servants and ordinary workmen, and the families of all. The total number of inmates in 1844 was 103.† A most admirable scientific library, collected at a great expense, forms part of the outfit, of which an excellent and useful catalogue is to be found in the description of the observatory mentioned at the head of this article, and to which we must refer for further details, into which, unfortunately, our limits do not allow us to enter. Russia may indeed be justly proud of her Temple to Urania, and of the fame of Struve, her astronomer; yet, when we compare all this splendour with the humbler practical establishment of Greenwich, we feel that there is an amount of mere luxury in buildings, in instruments, in the unstinted supplies of an imperial treasury, which threatens, under a less energetic chief, to seduce men from the full performance of a most toilsome duty. Pulkowa is like the palace of an astronomical autocrat, who has but to *will*, and men and money appear at his call to take the heavens by storm. Greenwich resembles the counting-houses of some of our opulent city merchants, showing more brick than marble, but whose cellars are stored with the accumulated wealth of generations.

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* This includes 12,000*l.* for the cost of instruments entirely furnished from Germany.

† 'Description de l'Observatoire de Poulkova,' p. 54. The fourteen persons mentioned above include secretary, mechanist, pupils, &c.

The general position of Greenwich Observatory has been already described. The building consists of two very distinct parts; the *Old* Observatory having the usual tower form, (in this case octagonal from the first floor,) surmounted by a flat roof from which rise two small turrets; and this central tower is flanked by two wings, also of brick, and now capped with two small, revolving domes. This edifice, which is conspicuous in every view of the Observatory, faces the river Thames, coming forward to the very brow of the hill which it occupies. With the exception of the two small domes, it is *nearly* in the state in which it was constructed from Sir Christopher Wren's plan. Contiguous to it, on the south, is the dwelling-house of the Astronomer Royal, which has received several successive additions. The *New* Observatory dates, in its greater part, about a century back, and lies quite detached, and to the S.W. of the former building. It is comparatively low and unconspicuous. It is chiefly composed of a range of apartments running from west to east. There is a small revolving dome on the second floor near either end. The humble exterior of this, the really working observatory, will probably astonish any person who expects to view a great national edifice celebrated for the quantity and excellence of observations, of the most delicate kind, which have been made in it.

Charles II. founded Greenwich Observatory. It was the natural result of the tendency of the age to render speculative truth practical. Bacon, moved by the pervading spirit, had contributed more than any man to forward and extend the impulse he had himself received; and after the Restoration the physical sciences were in the very zenith of their popularity. Princes and bishops, statesmen and judges, courtiers, ladies, and poets, vied with each other, if not in extending the new philosophy, at least in celebrating its praises, and in attesting their sense of its importance. 'Charles himself had a laboratory at Whitehall, 'and was far more active and attentive there than at the Council 'Board.'* His patronage of the Royal Society (founded 1660, chartered 15th July, 1662) brought him into contact with men of science; and it was owing to an accidental discussion on a proposed method of finding the longitude at sea by lunar distances, that the king became aware of the defective state of astronomy, and the important use to navigation of improved tables of the moon, and (as a first step to them) of accurate plans of the stars. This was early in 1675.† The foundation

* Macaulay's 'History of England,' i. 409.

† See Flamsteed's Autobiography in Baily's Life, pp. 37-8; but

of the Observatory was laid August 10th, 1675, the site having been suggested and plans given by Sir Christopher Wren: the roof was already covered in at Christmas. Sir Jonas Moore, Surveyor-general of the Ordnance, was particularly active about the matter: he had been connected with the Court as mathematical tutor to James, Duke of York, before the Commonwealth (1647), and had remained loyally attached to the Stuarts during their reverses. On his recommendation Flamsteed was appointed to the charge of the Observatory: his title in the warrant is 'our astronomical observator;' and his duty is 'to rectify the tables of the motions of the heavens and the 'places of the fixed stars, so as to find out the so much desired 'longitude at sea, for perfecting the art of navigation.' The same object is indicated in the inscription, which still stands near the old entrance of the Observatory, to the following effect:—

Carolus II., Rex Optimus,
Astronomiæ et Nauticæ Artis
Patronus Maximus,
Speculam hanc in utriusque commodum,
Fecit.
Anno Dni MDCLXXVI. Regni Sui XXVIII.
Curante Jona Moore milite,
R. T. S. G.*

Flamsteed held his office from 1675 to Dec. 31st, 1719, when he died at the age of 73. Few men have left so conscientious a record of a life of toil. Less skilled in the theory and construction of instruments than Römer, he yielded to no astronomer of his day in his ideas of the precision and diligence required in making, recording, and reducing observations; and his 'Historia 'Celestis Britannica' (posthumously published) will remain, to all time, an imperishable monument of the history of the heavens at the commencement of the last age.†

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particularly Flamsteed's letter to Sherbourne, in the same work, p. 125.

* These letters (as appears from the 'Historia Celestis,' vol. i. p. 26.) signify *Rei Tormentaræ Supervisore Generali.*

† Flamsteed's 'British Catalogue' has been reprinted, with elaborate corrections and notes, by Mr. Baily. As a specimen only of its interest and importance to astronomy, we may mention that it contains six observations of Uranus—one in 1690, one in 1712, and four in 1715 (of course mistaken for a fixed star), which have been of great use in the Theory of Neptune. For further particulars of Flamsteed's career, see an article on his life in this journal, vol. lxii p. 359.

The liberality of the Government extended no further than to building the Observatory and giving the astronomer a salary of 100*l.* a year: which Flamsteed used to say (and truly) he earned by labour 'harder than thrashing.' But the strangest neglect was, that no instruments were provided for him. He had not only to thrash, but *to find his own corn.* Sir Jonas Moore, his kind patron, did indeed give him some instruments, namely, a large sextant, two clocks, and a telescope: but Government was deaf to his demands for money to construct others which he imperatively required, and which he eventually furnished from his own resources; so that at his death, not one article contained within the bare walls of the Observatory was the property of the Crown,—a circumstance which gave a colour to the right which he and even some of his successors assumed in the property of the observations which they made. Flamsteed at first had a common labourer assigned to him, at the public expense, to take care of the buildings and act as his servant; and somewhat later he appears to have been allowed a computer or assistant instead. In general, however, he had two regular assistants (who appear to have been engaged or apprenticed for a term of years), and one of whom was paid by himself, as well as spare computers in the country, whom he almost constantly employed in the reduction of his observations and in the comparison of the places of the heavenly bodies with the then existing tables. Most of the computations were made twice by independent persons and compared by himself.

In 1710, in consequence of the complaints of Newton and others as to the impracticability of extracting any information from the Astronomer Royal, the President of the Royal Society, and a selection of its members, were appointed by the Crown a commission of *visitors* to inspect the Observatory, and report its deficiencies to the Board of Ordnance, to purchase Flamsteed's instruments, to instruct the astronomer *as to the observations he should make*, and to cause him to return to them annually a copy of the observations when made.* These summary powers were pretty regularly exercised. But no attempt was made to acquire Flamsteed's instruments for the State. On the whole, the appointment of the board of visitors was authorised by the circumstances of the time; and as in later years their powers have not been tyrannically exercised, the

* 'Baily's Life,' pp. 90, 91. The warrant of Anne is dated Dec. 12. 1710. In the Secretary of State's letter to the Board of Ordnance they are required to 'have regard to any complaints the said visitors 'may make of the *misbehaviour* of her Majesty's astronomer.'

existence of the board has really been of great service to the Observatory, as we shall explain in speaking of its present state.

Flamsteed's really valuable observations commenced in 1689, when he employed his friend, Abraham Sharp, at an expense of 120*l.*, to construct for him the mural arc, which served to determine both the right ascensions and declinations of the stars of the 'Historia Celestis,' as well as of the sun, moon, and planets.* The divisions of the limb were estimated or subdivided by counting the revolutions of a screw at first†, and afterwards by diagonal divisions. It was 79½ inches radius. An arc of 5″ could be distinguished upon it. The Greenwich Observatory has always been known in the neighbourhood under the familiar name of *Flamsteed House*, which indeed it still retains.

Flamsteed was succeeded in 1720 by Halley, long his keenest foe; who, being then sixty-four years of age, was certainly too old to execute properly the duties of so onerous a station; especially as he succeeded to the Observatory in a totally unfurnished state, and therefore had to wait, to have instruments made, before his observations could commence. In 1721 he procured a transit instrument, as already mentioned, and in 1725 Graham finished an eight feet mural quadrant, the best instrument of the time, with which Halley continued to observe the moon, until 1737, when he became paralytic, and died in 1742 (June 14th). His observations are preserved at Greenwich in the original MS., but have not hitherto contributed much to the progress of science, nor are likely now to do so.‡ Halley had no regular assistant§; a serious disadvantage, since the observations of right ascension and declination were now for the first time made with different instruments, which besides were placed at some distance apart.

Bradley, the greatest British astronomer of the past century, and, like Halley, Savilian Professor at Oxford, succeeded him February 3. 1742. He had already acquired deserved celebrity

* The Czar, Peter, visited the Observatory twice in 1698. On the 8th March of that year, after a double observation of Venus on the meridian, is this note: 'Observante Serenissimo Petro Muscoviæ Czaro.'

† This method, which would seem to belong to a more advanced stage of practical science, was due to Gascoigne, who first applied telescopes to divided instruments, and who constructed the first Micrometer. He died 1644.

‡ See Baily on Halley's Observations in Astr. Soc. Mem. vol. viii. p. 169.; and Rigaud on Halley's instruments in vol. ix. of the same work.

§ Baily's Flamsteed, p. 362.; Rigaud's Life of Bradley, p. li.

by his discovery of *aberration*, or the effect of the progressive motion of light combined with the motion of the earth in its orbit, in apparently displacing the fixed stars. This was followed in 1747 by his discovery (also by observation) of the inequality called nutation, an irregularity in precession, afterwards proved to be occasioned by the attraction of the moon on the elliptical protuberance of the earth's equator, producing a small conical motion in the position of its axis. In consequence of these two effects of gravity and the motion of light, combined with the long recognised phenomenon of the precession of the Equinoxes, all stars *appear* to describe (as seen from the earth) certain complicated little orbits, whose general period is a year, but which, not returning into one another, produce fantastical and not inelegant looped curves.* So considerable, in some cases, are these apparent motions, that the stars (called *fixed*) require to have their apparent places computed beforehand just as the planets have, before any careful astronomical results can be deduced from observations compared with them. Thus in the 'Nautical Almanack' we have the place of *Polaris* calculated *for every day*, and many other stars for every tenth day of the year. These discoveries of Bradley were principally made by means of a zenith sector† (an instrument already described). It was 12½ feet radius, and he considered its results true to *a quarter of a second*. It was constructed for him by Hearn and Graham, in 1727, and used at Wanstead, in Essex, where he resided with his uncle Mr. Pound, known by his skilful use of the monstrous telescopes then in vogue for measuring the diameters of the planets and the elongations of their satellites.‡ Bradley's sector was removed to Greenwich on his appointment, where it was continually used by himself and his successors down to 1812. It is still doing good work at the Cape of Good Hope, and is illustrious from its long service as well as from the extraordinary value of the observations originally made with it. Considering a correct knowledge of the places of the fixed stars

* Some of these are represented graphically in Captain Smyth's *Celestial Cycle*.

† The zenith sector, with a micrometer, appears to have been the invention of Hooke, and was used by him at Gresham College, in 1669, for ascertaining the parallax of the fixed stars. See Rigaud's 'Life of Bradley,' p. xii.

‡ Bradley himself, in 1722, measured the diameter of Venus with a telescope 212¼ feet long! (Rigaud's Life, p. ix.) It should be noticed that the apparent orbit of γ Draconis was roughly made out, with Molyneux's sector at Kew, by Molyneux himself and Bradley, in 1725 and 1726.

(the landmarks of the sky) as the very foundation of accurate astronomy, it is hardly possible to overrate the practical importance of a discovery of the laws which regulate their apparently capricious motions: not to mention the beautiful physical induction of the cause, which afforded a *direct* proof of the motion of the earth in space, as complete as the annual parallax of the fixed stars which was then so anxiously sought for.

Bradley entered on his duties at Greenwich with the utmost vigour, although he still continued annually his lectures at Oxford. In 1743 he and his nephew, John Bradley (who acted as his assistant), made no less than 18,000 observations; *on one day* (8th August) they took 255 transits,—perhaps an unexampled effort.* The instruments were Halley's, and they required much repair. It was not until 1750 that Bradley was provided with new instruments, excellent of their kind, through the liberality of George II., who granted 1000*l.* for this purpose, whereof 300*l.* was given to Bird for a new quadrant, and 73*l.* 13*s.* 6*d.* for a transit instrument by the same maker.† Bird made his quadrant every thing which so imperfect an instrument admits of being made. Its accuracy of division could scarcely be improved. It had a double arc — one of 90°, and one with 96 divisions (this number was first selected by Graham for the convenience of continued bisection of the arc of 60°, which was set off by making the chord equal to radius). By the comparison of the two arcs, contained in Bradley's printed observations, the difference rarely exceeds a second; and Mr. Pond admits, that, by his examination of the quadrant in 1811, the errors of division do not appear to be above that minute quantity, and the earlier observations with the instrument were in all respects perfectly good. By long use, however (sixty-one years), it had become gradually eccentric, and the error from this cause rose to 8″ or 10″ near the horizontal part of the limb.‡

With so admirable an instrument, and so admirable an observer, the results could not but correspond; and the commencement of true precision in astronomy really dates from 1750. The observations, however, were not printed until long after§, and they were reduced as regards the places of the fixed stars in an

* Rigaud, p. liii.

† One of the most admirable instruments in the Observatory was the clock by Shelton. It bore Graham's name, and appears to have cost 39*l.* See Rigaud's 'Life of Bradley,' p. lxxiv.

‡ 'Greenwich Observations for 1812,' p. 234. This instrument is now in good preservation at Greenwich. He corrected the collimation by means of his zenith sector, which he removed from Wanstead.

§ By Dr. Hornsby, Savilian Professor at Oxford in 1798.

admirable manner by Bessel. The reduction of the Lunar and Planetary Observations, which are equally excellent and valuable, has only been performed within a few years by Mr. Airy, as will be mentioned in its proper place. Part, at least, of the range of building which constitutes the present working Observatory was of Bradley's time, and dates from the year 1749.

Flamsteed, we have seen, had a salary of only 100*l.* a year, which was farther reduced by official fees. Halley and Bradley had officially no more; but Halley received a personal addition of 100*l.* a year, in consequence of having served as commander in the navy.* Bradley was offered the living of Greenwich, but conscientiously declined it, on account of the absorbing nature of his duties. In 1752, however, he received a pension of 250*l.*, which was added to the official salary of his successors by George III. The salary has, very properly, been of late years still farther increased.

Bradley's later efforts were successfully devoted to the improvement of the tables of the moon; and he died July 13. 1762, aged seventy.* He was succeeded by his friend Dr. Bliss, the third in succession who united the posts of Astronomer Royal and Savilian Professor at Oxford; but he died in 1765, after holding the office of Astronomer Royal only three years, and without leaving any observations of such importance as to require especial mention.

Dr. Nevil Maskelyne, of Catherine Hall and Trinity College, Cambridge, succeeded Bliss, in 1765. He retained the office for the space of forty-seven years, and died Feb. 9. 1811, at the age of seventy-eight. At the time of his accession, more stringent rules were laid down by the Royal Society (the official visitors) for ensuring the habitual residence of the Astronomer Royal at Greenwich, and the complete devotion of his time to its increasing duties. Down to this period some doubt had even existed as to the right of property in the observations made at the National Observatory. Flamsteed's heirs, we have seen, claimed the papers in which were recorded his life-long labours as their property. Halley, who had always been clamorous for the public right in Flamsteed's observations, when pressed, in his turn, by the Board of Visitors, avowed his intention of keeping possession of his observations of the moon, that he might get the reward for the discovery of the longitude! † Bradley's observations were likewise retained by his heirs, and a

* Caroline, Queen of George II., who visited the Observatory in 1727, obtained for him this advantage.

† His MSS. were ultimately purchased by the Board of Longitude for 100*l.*

law-suit, raised by the Crown, in 1767, to recover them, was abandoned in 1776. During Maskelyne's long tenure of office, he was entirely devoted to its duties, making himself all the most delicate observations, particularly those of the moon, and rarely quitting the Observatory, except to attend the meetings of the Royal Society. The perfect method and continuity of his observations give to them a great value, especially for the correction of the Lunar Tables, in which respect they are indeed without a parallel. But the regularity of their publication was not their least merit. Four large folio volumes include with perfect method the patient labours of a life (for he had but one assistant). Delambre, in his character of Maskelyne, says, that if through some catastrophe the whole materials of science should be lost except these volumes, they would suffice to reconstruct entirely the edifice of modern astronomy.

Maskelyne was drawn to the study of practical astronomy by the great eclipse of 1748,—which had a similar influence on the mind of Lalande. He was recommended by Bradley for observing the transit of Venus, in 1761, at St. Helena; and, though the primary object of the expedition was lost through cloudy weather, he made other valuable observations, especially for the determination of the longitude, both by lunar distances and by chronometers. With the same view he went afterwards (1763) on a voyage to Barbadoes with Harrison's timekeeper; and from 1767 to the time of his death he superintended the publication of the 'Nautical Almanack,' a work of infinite use to seamen, of which he edited no less than forty-nine volumes. In 1774 he made his memorable observations on the attraction of Mount Schiehallien, in Perthshire, for the determination of the earth's density; a work of great delicacy, which he executed under disadvantageous circumstances with consummate skill and address.* With regard to the instruments employed by him, they were those of Bradley, with improved object glasses; but he had prepared for superseding the quadrants before his death. Troughton's Meridian Circle was ordered by him, although it was first used by his successor in June, 1812. On the whole, Maskelyne left behind him an enviable reputation. From a perfect devotion to the duties of his office, and a most candid and amiable temper, he was with equal justice both respected and liked by his contemporaries abroad as well as at home.

Mr. Pond, the next Astronomer Royal, resided at Greenwich from 1811 till 1835, when he resigned his office through the pressure of bad health, and died the following year. He had a

* Phil. Trans. for 1775.

peculiar skill in the theory of instruments, and the correct interpretation and application of the results afforded by them.* Himself the possessor in early life of a small but very perfect circle by Troughton, he published, as an amateur astronomer, determinations of the places of the fixed stars equal, if not superior, to those determined by public observatories; and demonstrated the increasing errors of the Greenwich Quadrant, due to the eccentricity occasioned by friction on its centre. This error is wholly avoided in circular instruments. At Greenwich he first used Troughton's Circle; and afterwards added Jones's, and made observations by reflection. He gradually increased the number of assistants from one to six — a most important innovation, rendering Greenwich Observatory capable of far greater efforts than his own infirm health enabled him to undertake, but of which full advantage has been taken by his successor.

The present Astronomer Royal, Mr. Airy, formerly Plumian Professor, and Director of the Observatory at Cambridge, was appointed to Greenwich in 1835, on the resignation of Mr. Pond. Before we proceed to give some account of his labours, which include, of course, the present operations of the Observatory, we will endeavour to give the reader an idea of its present state, or rather, to speak more accurately, its state until a few months ago, before certain alterations of an important kind were commenced, which we will briefly advert to in the sequel.

We have already stated that the Astronomical Observatory consists of two distinct groups of buildings, — the older castellated part, of the time of Flamsteed, and the low range, of Bradley's and Maskelyne's time: we shall commence with the former. It consists of a great centre tower and two wings. The tower in its lower part is occupied by the dwelling apartments of the Astronomer Royal. Its upper portion consists of a noble octagonal hall, with lofty windows, and balconies, intended for the use of large moveable telescopes and quadrants; but this room is not at all used now for such purposes. A narrow staircase leads from one of its corners to the leads on the top of the Observatory; commanding a very noble view over the whole of London, and a great part of the course of the Thames, and overlooking, of course entirely, Greenwich Hospital and its domes, as well as the town of Greenwich, and the cheerful slopes and deep woody recesses of the Park. Here are disposed several meteor-

* Mr. Airy, in one of his Annual Reports, states that he regards Mr. Pond as the principal improver of modern practical astronomy. — *Report to Visitors*, 1846, p. 9.

ological instruments, which require a free exposure,—particularly Whewell's and Osler's self-registering anemometers, which record on paper the direction and quantity or force of wind during the twenty-four hours that elapse between each inspection of them.

Here, also, we find a singular mechanism surmounting the eastmost turret of the Old Building. It is a pole, with a weather vane and a large black cross arranged horizontally at the top. Below the cross, on the vertical stem supporting it, slides a black ball about six feet in diameter: it may be raised by a simple mechanism until its upper edge touches the arms of the cross, which prevent it from going higher; but in its ordinary state it remains down at the lower part of the staff. The object of this useful apparatus—called the *Time Ball*—is to give notice to the whole shipping of the Thames and port of London, of the exact time,—by dropping it daily from its highest position on the staff at the precise instant of One o'clock—Greenwich Time. The business of the assistant, who has charge of it, is, by means of a winch in the lower part of the observatory, to hoist up the ball to its highest position touching the cross *five minutes* before One o'clock every day, including Sunday. There is a time-piece compared with the Observatory clocks which stands near the winch, and also a species of trigger, by which the ball is suddenly detached and allowed to fall by its own weight, which is considerable. To prevent the shock of the fall from injuring the apparatus, the ball is connected with a piston eight inches in diameter, slipping in a cylinder containing air, which thus deadens the shock as by a cushion. The duration of the fall is immaterial to the observation. It has lately been proposed to observe the transit of the ball across several horizontal hoops; but the accuracy of the observation at present appears to be quite adequate to the end in view. At the instant of One o'clock the trigger is withdrawn, and the separation of the ball from the cross is visible to all the ships, which have chronometers on board; and they may thus have their errors ascertained, without the trouble and expense of sending them up to the Observatory, and the more serious drawback of the probable change of rate which the shaking of land carriage is almost sure to occasion. To check the possibility of error on the part of the time-ball assistant, another stationed in the Observatory notes the moment of the fall of the ball, and registers it daily in a book. The error in time does not usually exceed one tenth of a second; and does not amount to three tenths of a second oftener than once in six weeks.

In the western wing of the Old Observatory there is a dome,

under which was formerly an equatoreal telescope. The position being, however, unfavourable, the telescope has been dismounted and sent to the Cape.

Near this was (till lately) the Zenith Tube Room. This instrument is a modification of Bradley's zenith sector, for measuring small zenith distances (especially for the star γ Draconis, which passes within a few minutes (north) of the zenith of Greenwich), and it was intended, of course, to be an improvement on that celebrated instrument. It consisted of a tube twenty-five feet long, varying in diameter from six to ten inches, and furnished with a five inch object-glass at the upper end. The tube had no motion except round a vertical axis: zenith distances, therefore, were measured not by the motion of the telescope upon an arc, but by the observation with a micrometer of stars passing through the field. It is needless to describe its action more particularly; for all the skill of Pond and Airy, and all the mechanical dexterity of Troughton and Simms, failed to obtain any satisfactory results with this gigantic instrument. The errors of observation constantly amounted to 2″ or 3″; exceeding those of the ordinary mural circle, and utterly destructive of any hope of measuring by this instrument the parallax of the fixed stars. This failure is an instructive example of the serious difficulty attending the construction and working of gigantic instruments, and the fallacy of the plausible expectation that *unlimited* accuracy may be obtained by mere enlargement of scale in our apparatus. Among other sources of error (difficult to foresee or avoid) the pertinacity with which spiders infest zenith sectors has been notorious ever since Bradley's time. These little animals, finding the dark, cool, undisturbed tube a desirable lodging, spin their threads there so assiduously as to entangle the motion of the plumb line, upon whose absolute verticality the accuracy of the instrument depends: and it is difficult either to perceive or remove them. The cunning spider, in thus perplexing astronomers, may be thought, perhaps, only to retaliate upon them for equal vexations which they have entailed upon the busy race of cobweb-spinners: since the very instrument in question, and almost every other in the Observatory, is provided with spider lines (technically called *wires*) in the eye-piece, for fixing the position of a star in the field of view of the telescope; and, to provide these, the optician is in the habit of training a certain kind of spider which furnishes the best thread for spinning long lines — to serve his own ends, not theirs, to catch stars, not flies: — *Sic vos non vobis!*

The zenith tube having been found ineffectual, is now dis-

mounted, and the apartment otherwise appropriated. Mr. Airy has, however, devised an altogether new instrument for the same purpose, in which the principle of reflection at a quicksilver surface is to replace the clumsy and inaccurate plumb line; but the particular contrivance we can hardly hope, within our limits, to render intelligible.

In the eastern part of the old building, and near the trigger apparatus of the time ball, is an equatoreal telescope by Ramsden, known as Shuckburgh's Equatoreal. It is not, however, much used, since a larger instrument of the same kind has since been added to the establishment.

We now enter the Observatory Proper, at its west end (which also communicates, by means of a covered passage, with the astronomer's house), and we first find ourselves face to face with that fine old brazen quadrant by Bird, eight feet radius, mounted on a pier so that the telescope points to the southern meridian, and which furnished the admirable declination observations of Bradley and Maskelyne. It is in all respects preserved as when in use, although now of course never employed, —being superseded, since 1812, by the mural circle. On the *west* face of the same stone pier, the east side of which is occupied by Bird's quadrant, is Graham's old iron quadrant: it was made for Halley, but was redivided by Bird for Bradley, who used it for his earlier observations, and also for his later ones north of the zenith. As this instrument is little more than a venerable curiosity, the present astronomer has ingeniously managed, without injuring or removing any part of it, to convert the little room connected with it into a fire-proof room, for the preservation of the valuable MSS. connected with the Observatory: they include a complete set of all the astronomical observations made at Greenwich. Here we have Flamsteed's voluminous MSS., many of them first brought to light and carefully arranged and bound by the indefatigable care of Mr. Baily: and also Halley's rather confused memoranda (never printed) of his tenancy of the place. Of Bradley's observations there is only a MS. copy taken from the originals in the Bodleian, under Mr. Airy's inspection. It may be regretted that the trustees did not think themselves entitled to surrender the MSS. themselves, to which the public have evidently an equitable, if not an undeniable legal, right. Of course Maskelyne's and Pond's MSS. are found here, and there are now carefully preserved the *jotting books* with indelible metallic pencil writing, in which each individual observation is at the time noted by every observer in the establishment. The correspondence of the Astronomers Royal, as far as collected, is also here preserved.

The next room, to the eastward of Bird's Quadrant, is the COMPUTING ROOM,—the grand scene of labour of the whole Observatory. It is only by exception that the astronomer or his assistants are to be found *using* the instruments, even during the regular hours of observatory work; but they are nearly sure to be found assembled in the Computing Room, busied, at different tables, with their silent and laborious tasks,—the assistants on watch turning an eye now and then to a small time-piece, which regulates their task of allowing no celestial object of consequence to pass the meridian unobserved. When we come to speak of the personal establishment of the Observatory, we shall try to explain how it is that the calculating work is so much more heavy than that of observation.

Next in order comes the TRANSIT ROOM. The instrument which gives the room its name has been already explained. The Greenwich transit is ten feet in length,—the object-glass by Dollond, the mounting by Troughton: it was set up in 1816. The eye-piece contains seven vertical 'wires' (in reality spiders' threads); and the time of passage of each celestial object over every one of these is noted, and the mean taken. The mean or average direction of the whole seven wires determines the ideal line, called the 'line of collimation,' or optical axis of the telescope. If any of the wires have been missed by accident, a table is provided, by which the mean result, with those actually observed, may be reduced to the ideal mean. Suspended from the roof, above the instrument, we observe strong braces and pulleys of formidable appearance, recalling the instruments of torture of which traces may still be found in some ancient prisons. An apparatus of question no doubt it is. The telescope, if suspected of wavering by a hair's breadth from the meridian line of truth, is forthwith seized and pinioned by the assistants; and, its unwieldy mass having been lifted by main force from its piers, it hangs dangling in the air, until, having been swung horizontally round, it is allowed to seek repose again in its Y's, the ends of the axis having been reversed in position. If the line of sight (or collimation) be correct, the meridian wire will fall on the selfsame spot as before. Should it deviate from the expected place—deviate, though 'but in the estimation of 'a hair'—but a single second, the very brass of the telescope would blush a copper red! We shall say no more here of the verifications of the transit instrument, save that there is a meridian mark at Chingford, on the Essex hills, placed, in 1824, by Mr. Pond. As there is no doubt that it was *absolutely* in the meridian at that time, it may be interesting hereafter to verify the perfect persistance of the direction, on the earth's surface,

of the N. and S. line; that is, the constancy of the axis of rotation of our globe.*

Beside the transit stands, of course, a clock. This one is by Hardy, an eminent maker, who died now many years since; and it has been, in part, remodelled. Its performance is quite satisfactory; by which we mean, not that it never goes sensibly wrong, but that its rate (*gaining* or *losing*) is constant, or nearly so, for many days together, so that its error may be at any time allowed for. The most fundamental of all the observations is the knowledge of *time*. Now the mere error of observation with a good transit instrument, when seven wires are observed, is not perhaps $\frac{1}{20}$ of a second of time: hence only the very best determined objects can be employed for determining the clock error. Such are called *clock stars*, — the sun himself being never used for this purpose, — since the errors of the solar tables (or of the theory of the earth's motion) are still sensible. A consequence from this is, that the astronomical clock does not indicate the time from noon, or the sun's passage. We are surprised to see an observatory clock pointing to eight or twelve o'clock when we know that it is four o'clock by St. Paul's; and still more — going, a few months after, at the same hour — to find that the clock is giving totally different information. We are apt to think that the astronomers are so taken up with dividing a *second*, that they lose count of the *hours*. But the fact is, that the astronomical clock is regulated by the stars, not by the sun, and shows what is called *sidereal time*. Its twelve o'clock, or noon, is when the equinoctial point (in Aries) is on the meridian; and, as a matter of course, the clock at any moment tells what part of the circle of right ascension is on the meridian; and, conversely, by noting the moment of transit of a celestial object, its right ascension becomes known without any calculation. Our civil reckoning is regulated, very reasonably, by the sun, because daylight determines the order of our occupations; but the astronomer knows no such distinction; and the sun is to him merely an object having such and such a right ascension on a particular day, and to be observed in course among the others.

The mode of making a transit observation is as follows: —

* Mr. Pond used this meridian mark with the aid of a collimating telescope on the south of the transit instrument, to ascertain the line of collimation in azimuth without the necessity of reversing the instrument. (See Greenw. Obs. 1832.) As we have spoken above of the *absolute* coincidence of the line of collimation with the meridian, we should add that the astronomer does not aim at this, but allows, by calculation, for the small deviation which he ascertains.

The assistant in charge of the transit instrument is warned, by his sidereal timepiece approaching the hour which corresponds with the right ascension of the object he is to observe, that he is to prepare for the observation. The shutters of the slits in the roof are probably already open. If the object be the sun, the telescope is protected, by a screen near the object-glass, from the direct rays: for so sensitive is this instrument to unequal temperature of its parts producing a deviation of its axis, that the approach of a man's body to one side or other will twist the line of collimation: hence, transit instruments are often cased in flannel. Having adjusted the telescope to the anticipated altitude of the object in the meridian, by means of a small circle attached to it for this purpose, he seats himself in a very comfortable chair with a reclining back, similar to that in which most of our readers have reclined in a dentist's room. The observing-chair rolls back or forward at a touch by means of a railway which follows the eye end of the telescope, whilst the observer keeps his head supported by means of the adjustable back aforesaid. When the object is *high*, the observer is *low:* if the object be a star in the zenith, the observer lies almost on his back; and, in this very agreeable posture, he might surely be excused for indulging in a nap! We have not ascertained whether the code of laws of the Observatory contains a punishment for so dreadful an offence. Be this as it may, taking an observation is no sleepy matter; the tremble of impatience for the entrance of the star or planet into the field of view, is like that of the sportsman whose dog has just made a full point, and who awaits the rising of the game. When the star appears, the observer, in technical language, *takes a second from the clock face;* that is, he reads the second with his eye, and counts on, by the ear, the succeeding beats of the clock, naming the seconds mentally. As the star passes each wire of the transit, he marks down in his jotting book, with a metallic pencil, the second, *and the second only*, of the observation, with such a fraction of a second as corresponds, in his judgment, to the interval of time between the passage of the star and the beat of the clock which preceded such passage. This interval may be estimated either by the judgment of the ear or of the eye. In the latter case, the observer registers in his memory the position of the star relatively to the wire at the preceding and following clock-beat, and subdivides the space mentally.* Before Maskelyne's time, the second was only rudely divided by certain signs of *less* or *more;* but, since 1772, the transits have been noted in decimal frac-

* This was Bradley's invention. Rigaud's Life, p. lv.

tions of a second; and an experienced observer will never commit an error exceeding $\frac{1}{10}$ of a second on each of the seven wires. The observer then carefully takes the hour and minute from the clock, and adds it to the *last* observation. Stars not very near the sun may be seen and observed with the telescope in broad daylight,—an effect of optical power not altogether easy to account for, and deserving of farther investigation by experiment. At night, the field of the telescope must be enlightened by a lamp shedding a ray through the transverse axis, so that the spider threads may be distinguished against the brighter ground.

The observations with the transit instrument have two distinct purposes: *first*, the determination of *time* from objects whose right ascension is known (clock stars); *secondly*, the determination or correction of right ascension of objects from the true time of passage across the meridian. The clock stars themselves have had their places ascertained in this manner, and cannot be regarded as ever *perfectly* known. When less than four such stars (taken from a list including about sixty principal stars, none of which are less than 50° from the pole, so that their passage across the meridian shall be nearly as rapid as possible) are observed on the same day, their mean result is taken, to give the clock error; but when more than four are observed, the clock error being similarly ascertained, the right ascension of the individual stars thus used is also calculated and entered in the Reduced Observations; because it is concluded that our knowledge of the differences of the right ascensions of these bodies will be perfected by such an observation, and in the long run (being carried from star to star round the heavens) will correct the very individual places whose *collective* accuracy was assumed in the determination of the clock rate, — on the knowledge of which the accuracy of those intervals evidently depends. Thus astronomers do really in one sense reason in a circle; but yet have reason on their side,—for it is evident, on consideration, that the accumulation of good observations of well determined stars will tend to annihilate the effect of the error of place of any one or two stars upon the clock-rate, and at the same time bring out the discrepancy in the right ascension of those particular stars.

But we now pass to the Circle Room. Here, in 1812, was mounted the masterpiece of Troughton — the six feet mural circle for ascertaining the altitudes of celestial bodies on the meridian, and thence their polar distance. A second similar one by Jones, for observations by reflection, was mounted in 1824; but Mr. Airy having, by a particular method, which he

adopted at Cambridge, been enabled to obtain as satisfactory results with one circle as with two, Jones's circle was sent, in 1839, to the Cape, where it still remains. The circle is provided with six equidistant microscopes, fixed to the stone piers in such a manner that, when the circle is turned on its axis, the divisions on it pass rapidly through the field of view of these microscopes, which are also provided with fine spider lines whose motions are ascertained by counting the revolutions of a screw; and thus the subdivisions of the spaces on the divided circle are ascertained to great nicety, the mean of the readings of which not only effectually destroy any error of centering (which vitiated the old quadrant observations), but in almost every possible case correct casual errors of division.

It is in contemplation to supersede both the mural circle and transit instrument by a transit circle (now in preparation), with which is connected a telescope of very large dimensions.

Beyond the Circle Room are three apartments devoted to the assistants; and ascending a narrow stair, we find, first, a comfortable and well appointed LIBRARY of Astronomical and Scientific works, carefully arranged, catalogued, and bound, which are used exclusively by the persons connected with the establishment. The present Astronomer Royal, who has added greatly to the efficiency and completeness of the library, states that it has been found to be most useful in diffusing a taste for science among his subordinates, and in enlarging the circle of their acquirements.* Several hundred pounds have been judiciously applied by the Admiralty to this desirable object.

Adjoining to the library is the CHRONOMETER-ROOM. On entering, the visitor is startled by a universal buzz, which sounds almost like the hum of the beehive. It is occasioned by the beats or *ticking* of many rows of chronometers, the property of the Admiralty, or of individual makers who have sent their watches on trial, prizes being occasionally awarded to the most perfect, besides that those found to go most regularly are always purchased for the public service. Two broad shelves on three sides of this room are usually covered with these delicate and valuable machines, whose aggregate worth is never under several thousand pounds. In 1842 there were no less than one hundred and seventy chronometers on trial; at present there are not so many. They are *rated* for the most part daily, and by two persons, to avoid error. The whole process is

* Astronomer Royal's Report, 1837, p. 2. Again (1846, p. 3.) he says, 'The library is accessible, under simple regulations, to all the 'assistants, and is producing a marked effect upon their education.'

curious enough. At one o'clock every day the two assistants in charge repair to the room, where is a timepiece set to true time. One person opens the lids of the chronometers (which are almost all in boxes), and winds up each with its own key. His second follows a little after, verifies the fact of each being wound up, and closes the lids. The object of this is to still the din of ticking, which would prevent the clock-beats from being distinctly heard in the comparison. One assistant then takes each watch in succession in his hand, and, reckoning by the eye a second from the clock-face, counts the beats whilst he compares the chronometer by the eye, and in the course of a few moments he calls out the *second* shown by the chronometer when the clock is at 0 second. This number is registered in a book by the other assistant, and so on throughout. They then change places, the second comparing, and the first writing down; but this last precaution is sometimes omitted. The *minutes* are compared with the clock but once a week. From these books of daily comparison are deduced the daily rates by which the goodness of the watch is to be estimated. The errors are chiefly of two classes,—that of general bad workmanship, producing a *lawless* variation in the rate, and that of *over* or *under*-correction for temperature (or *compensation*, as it is called,) which may occur even in a watch otherwise perfectly well made. The difference of the greatest and least rate in the course of a twelvemonth, when the watch has been exposed to all the annual changes of temperature, may be ascribed principally to the latter fault; but abrupt changes, shown by comparing one week's mean rate with the next, are considered to be due chiefly to indifferent workmanship. A chronometer is judged of on the whole by a combination of these two tests; yet it is easily seen that such combination is in a great measure arbitrary, and that the selection of a chronometer must depend a good deal on the particular service for which it is to be used. If, for instance, it is to be sent to extreme climates, the perfection of the temperature correction will be most regarded. We must add, that in the middle of the apartment is a stove, and over that stove a large iron tray or pan, which may justly be termed *purgatory*. Here the chronometers, doomed to the highest trials of virtue, do penance for a period in artificial heat, and, when their rates have been taken, are plunged in snow; thus made to

> '——— feel by turns the bitter change
> Of fierce extremes—extremes by change more fierce;
> From beds of raging fire to starve in ice
> Immovable, infixed, and frozen round
> Periods of time; thence hurried back to fire.'

The great care and attention which all chronometers sent on trial to the Royal Observatory invariably receive, as well as the perfect impartiality and authenticity of the reports on their performance, afford great encouragement to this branch of national manufacture — one of vast importance to the safety, convenience, and perfection of navigation. But, notwithstanding the astonishing rapidity with which, by long practice, the comparisons are made, the detail of the chronometer department of the Observatory is a very heavy one, and, in fact, occupies no inconsiderable fraction of the strength of the establishment.* The service thus conferred on navigation is too direct, and is too closely connected with the primary objects of the Observatory, to be given grudgingly; it must be, however, recollected, that so much power is withdrawn from strictly scientific work, and that no part of the chronometer-work appears in the 'Greenwich Observations.'

Near the chronometer-room is the SOUTH-EAST DOME, occupied by a fine equatoreally mounted telescope. The object-glass was munificently presented to the Observatory by Mr. Sheepshanks; it is $6\frac{3}{4}$ inches in diameter. This instrument is valuable for ascertaining approximately the places of comets, &c., out of the meridian; and, being fitted with a double-image micrometer, contrived by Mr. Airy (described in 'Greenwich Observations,' 1846, p. lxxxvii.), can be used for ascertaining the distances of double stars, the diameter of planets, &c. But these observations are only occasional, not systematic, in this Observatory.

There is another dome connected with these buildings, which is entered by a small stair close to Bird's Quadrant (see p. 328.), but which we have hitherto purposely abstained from mentioning, in consideration of its being occupied by an instrument expressly intended to be supplementary to those already described. This is the ALTITUDE AND AZIMUTH, or south-western DOME; it is on the second floor of the 'advanced building,' formerly spoken of as the site of Flamsteed Mural Arc. We have alluded to the inconveniences attending the use of altitude and azimuth instruments, such as those of Palermo and Dublin. But Mr. Airy considered the special advantage to be derived from observing the moon in parts of her orbit when, on account of the sun's proximity, she is invisible in meridional instruments, to be worth the trouble

* In 1842, Mr. Airy stated that the chronometer work occupied the greater part of the time of three assistants. We must, in strict accuracy, add that it is not *usual* to expose the chronometers to the action of frigorific mixtures; but they are sometimes employed when the makers desire it. See *Parliamentary Return on Admiralty Chronometers*, 28th July, 1849.

and expense of constructing a circle with extraordinary precautions for stability, and of undertaking calculations, of great length and intricacy, for deducing the moon's place at such times. The extraordinary pains with which for more than one hundred and seventy years the moon's motions have been followed at Greenwich, and the happy result, in the improvement of the Lunar Tables, as well for the use of navigators as for a test of the theories of physical astronomy, have given to the British National Observatory an undisputed preeminence in this department. As the greater part of the lunar irregularities depend in some way or other upon her position in regard to the sun; and as the moon scarcely ever can be observed on the meridian when her time of passage is within four hours on either side of the sun, it is easy to see that nearly one-third of her orbit (relatively to the sun) is unobserved and untested. It was to supply this defect that Mr. Airy recommended and effected the erection of this instrument, which is of singular solidity, with horizontal and vertical circles three feet in diameter. By a comparison of the moon's placewith that of well ascertained stars, *in any part of her diurnal course*, observations may be made in the early morning, or in the evening, when the moon is a slender crescent, and the sun below or only a little above the horizon. Besides this, observations of the moon's place may at all times be obtained when the weather permits, although it may have been cloudy at the instant of her passing the meridian. The observation is made by the method of comparative transit of the moon and a fixed star, both across six vertical wires for azimuth (the horizontal circle being fixed), and six horizontal wires for altitude. The results are satisfactory in quality, being little inferior to those with meridional instruments; and they have increased the number of lunar places ascertained during the year by 75 per cent., and include observations of the moon even within *one hour* of the sun. It may be thought to be a great sacrifice of time and labour (absorbing the strength of one assistant at least) for a single object, the cost being at first 700*l.* or 800*l.*, and 150*l.* per annum afterwards. But on this subject Mr. Airy gives us the curious information, that the lunar observations, as previously conducted, might be considered to cost the country 1000*l.* a year, or *each single complete determination of the moon's place to be worth* 10*l.**

This completes our survey of the Astronomical Observatory. We have only space to glance for a moment at a subordinate department, which some of our readers will perhaps consider the

* Airy, Report, 1844, p. 5.

more interesting of the two,—the MAGNETICAL AND METEOROLOGICAL OBSERVATORY. We regret that it is impossible for us here to do more than meagre justice to this subject.

A knowledge of terrestrial magnetism has always been most intimately connected with that of navigation, and in some measure, also, with astronomy,—meteorology little less so. The diurnal variation of the needle—the most important discovery next to its polarity and variation—was ascertained by Graham, the clock and quadrant maker of the Greenwich Observatory in the time of Halley. Bradley made observations of the same kind; and so, occasionally, did Maskelyne and Pond. About fifteen years ago, however, a grand revolution was made in the science of terrestrial magnetism, chiefly by M. Gauss, a celebrated German mathematician and astronomer, who had the rare merit at once of inventing instruments capable of ascertaining variations in the force and direction of the earth's magnetical attraction, with a precision resembling the results of astronomy; and likewise of showing how these results, obtained simultaneously over a large part of the earth's surface, might be combined and connected, by mathematical formulæ, in such a manner as to represent, in an accurate and continuous manner, all the phenomena of magnetism at any point of the globe which might be selected, and so to register their changes from age to age.

Although Britain had not the honour of starting first in the magnetic race, yet she very speedily and honourably vindicated the position which her national consequence and widely-spread colonial territories strongly pointed out for her. Of course a *home* observatory—as complete, at least, as those equipped for Canada, St. Helena, the Cape of Good Hope, the East Indies, and Van Diemen's Land—was to be provided; and Mr. Airy at once volunteered to render Greenwich Observatory as effective in the magnetical as it has always been in the astronomical department. In 1838 a magnetic house or observatory had already been erected within a considerable enlargement to the southward of the old enclosure. After the usual number of official difficulties and delays, this appropriation on behalf of science was sanctioned by the Commissioners of Woods and Forests and the Ranger of the Park. It would be fortunate, if all encroachments on the pleasure-grounds of the public could be so well accounted for. The edifice is of wood, in the form of a cross with equal arms, the general directions being *magnetic* N. and S., and *magnetic* E. and W. It required only additional instruments (for occasional observations had been regularly made from 1838 until 1840, the period of which we now speak), and proper

assistance, to make the Magnetic Observatory all that could be desired. Besides magnetic bars, variously suspended, a complete system of barometers, thermometers, wind and rain measurers, hygrometers, actinometers, electrometers, and all other *ometers*, were gradually but efficiently provided; and last, not least, a sufficient staff of observing assistants was attached to the already considerable establishment of the Observatory. Their duty, indeed, was not light,—more irksome even than that of the practical astronomer; for here the observations must be made, be the weather what it may, every two hours, day and night, from year's end to year's end, with the sole exception of the twenty-four hours of Sundays. These observations were of a kind which was then new and nearly untried; the instruments had to be proved and adjusted in a thousand different ways before any thing like the same confidence could be had in their use which for generations had attended the operations of astronomy. The calculations and reductions to be gone through were so extensive, that, in consequence and for a series of years, Greenwich Observatory has given to the world two thick quarto volumes of results instead of one,—doubling, at least, the labours of the Astronomer Royal himself, although he generously neither required nor accepted any addition to his official income on the occasion.

This cross-like building, then, contains three principal instruments, or suspended magnets, disposed so as to influence as little as possible one another's motions. We have first a horizontal bar, suspended by a long bundle of silk fibres, which shows the change of direction of the magnetic north (declination or variation) at any moment. We have, in the second place, a magnetic bar, twisted — by means of the lines which suspend it — away from the magnetic meridian, so that it hangs nearly E. and W.; but, as the magnetic force of the earth increases or diminishes a little from time to time, the north end is a little more pulled to the north, or a little relaxed,—so that the *horizontal force* of the earth's magnetism is measured by the arc described by the needle thus balanced between the opposing forces of torsion and attraction. Thirdly, we have the instrument for measuring the vertical magnetic force, which resembles the beam of a pair of nicely-poised scales,—itself magnetised,—but without any scales attached. The northern end of the beam tends to dip more when the attractive action of the earth, by any cause, increases: on the contrary, when it diminishes, the counterpoise on the S. end of the bar tends to make it rise.

Each of these instruments is furnished with a small, flat mirror (or something equivalent) which turns as they turn. But every one knows that if we turn a looking-glass slowly

round with the hand, fixed objects reflected in it appear to wheel about with a redoubled velocity. Gauss availed himself of this principle to watch the *seeming* displacement of a finely-divided scale of inches, viewed, by means of a telescope, as reflected from these moving mirrors; and thus, by an easy calculation, to infer the angular motion of the magnetic bars to which they were attached. The magnetic observers were then required to register, every two hours, the division of the respective scales which they saw reflected in the mirror of each instrument; and these *readings* were at leisure converted into measures of the changes which it was wished to record; namely, of the declination or variation, in minutes and seconds of a degree, and of the horizontal and vertical components of the earth's magnetism, in thousandths of the whole force.

These important and vastly numerous determinations having been corrected, as far as possible, for the index errors of the instruments, and for the effects of temperature on the magnetic force of the bars, have been regularly printed in the supplementary volume of the Greenwich Observations. But as it became evident that something like a perpetual registration of magnetic instruments must henceforth form part of the work of a National Observatory, the attention of scientific men has for some time been directed to the possibility of causing the instruments to record their indications in the absence of the observers, and thus save a vast amount of severe human labour and vigilance. Government was induced to offer a reward of 500*l.* for such a perfected system; and Mr. Brooke, a medical gentleman of London, has been fortunate enough to adapt the principle of *photography* to it with such success as to be fairly entitled to the reward. His method has now superseded entirely the system of day and night watches so long pursued at Greenwich. We can only very briefly indicate the process.

It has been seen that the mirrors attached to the magnets reflect the divisions of a scale of inches to the right or left, as the magnets move one way or other. Instead of the scale of inches, imagine a lamp continually throwing a narrow ray of light on the mirror in a fixed direction. As the magnet moves, the ray reflected from the attached mirror will turn to one or the other side, and the spot of light which it throws on a screen placed so as to receive it will travel over a greater distance in proportion as the screen is placed farther from the reflecting mirror. Thus, without the smallest friction, we have a spot of light moving over a space which represents, upon any desired scale, the angular motion of the magnet. But now let the surface on which the spot of light shines be of photographic paper, placed in an apartment otherwise dark; let it envelope a

cylinder turning round a horizontal axis once in twelve or twenty-four hours, and the path of the luminous spot, from instant to instant, will be recorded by a discolouration of the sensitive paper. This impression is then made permanent, by the usual process, and the papers being removed are preserved as perpetual records of the continuous fluctuations of the several magnets. To give an idea of the scale on which the registrations are made, we may state that 1° of the declination magnet covers five inches of the photographic scale (corresponding to a circle of twenty-four feet radius); a variation of one thousandth part of the horizontal component of the earth's magnetic force causes a deviation of the spot of light through twenty-four hundredths of an inch on the paper; and a similar variation in vertical force produces a motion of fifty-two hundredths of an inch. The photographic indications are checked by means of four or five readings of the instruments, made daily at convenient hours, according to the old method; and the positions of the magnets at other hours are deduced from a comparison of these with the luminous tracings. A few of the leading results are deduced numerically from the tracings, and set down in the observation books for printing. But as the precise value of the scale of the tracing is determined each day by a comparison with direct observation, the reading off of each day's tracing requires its own proportional scale to be applied. This is done in a way as simple as it is ingenious. A slip of vulcanised india rubber stretched in a frame, and admitting of extension by turning a screw, has a scale of divisions drawn upon it, which scale may be shortened or lengthened, by means of the screw, until it is adjusted to the scale of the tracing for any particular day, any part of which may thus be read off in correct units, by merely applying the elastic scale to it.

The light hitherto used for photographing is that of the camphine lamp, but it is expected that a substitute less liable to the annoyance of smoke and occasional derangement will be discovered. The magnets, lamps, and registering cylinders are shut up from the daylight in zinc cases. When an examination of the apparatus is to take place, the window shutters being closed, the superintendent takes a common lamp or candle, protected with a *yellow* glass, which sheds plenty of light, but light containing so few chemical rays as not to affect the sensitive paper whilst his examination is proceeding. We may add that the thermometer and barometer are both photographically registered; the former very simply and effectually, the latter (as might be expected) with less success at present.

The duties of the magnetic and meteorological department,

which lately required the undivided attention of four persons, will for the future be performed by two.*

We have thus hastily gone over the chief parts of the Observatory, omitting, however, many minor details; and we must now attempt, in conclusion of this long article, to explain the excellently methodical way in which the onerous duties of this great national establishment are performed by the persons attached to it.

The PERSONAL ESTABLISHMENT has for some years consisted of the Astronomer Royal, G. B. Airy, Esq.; the Chief Assistant, The Rev. R. Main; five Astronomical Assistants; the principal Assistant in the Magnetic Department, Mr. Glaisher, with three other Assistants under him; besides occasional Computers employed from time to time, in number from two or three to as many as fifteen.

And first we have the Astronomer Royal himself, the nature of whose office has been already generally explained. The precise outline of his duties (never very clearly prescribed) has undergone in practice considerable modifications. Whilst the whole business of the Observatory was left to be performed by the astronomer and one assistant only (as was generally the case previous to the appointment of Mr. Pond), the astronomer undertook equally the labours of observation and calculation; but now that the establishment includes eight or nine subordinates, besides occasional computers, it will be easily understood that the adequate direction of so considerable an amount of manual power (for the duties of the subordinates are almost strictly mechanical) affords full employment for the intelligent head who has to direct all, and who is responsible for the labours of all. And indeed, when we consider the great number of instruments of different kinds in almost hourly use, the number of errors to which each instrument is especially liable, and the vigilance requisite to detect them; the fatigue of the immense calculations connected with the proceeds of almost every observation, and the pertinacity with which errors *will* intrude themselves into every kind of calculation, *especially the simplest*, —when we reflect besides that the progress of science is quite as rapid in practical astronomy as in almost any other department, and that the national astronomer is responsible for the character of his observatory, his instruments, and his results,

* The weekly meteorological averages are regularly communicated by the Astronomer Royal to the Registrar General of Births, Deaths, &c., and are published by him in his Reports.

and is ever on the watch for introducing improvements from abroad or those which his own experience may suggest,—that he has, besides many duties of a nearly mechanical and official, but of an important, kind, imposed upon him by his connexion with the Admiralty,—and farther, that he is frequently called upon by Government for advice on scientific points, requiring much deliberate consideration, or even extensive experiments and the drawing up of elaborate reports; and that all astronomers in England or in the colonies look to Greenwich as a centre of astronomical information and experience, whence help may be looked for and advice obtained;—it must be apparent that an active and energetic Astronomer Royal, like the gentleman who at present, fortunately for science, fills the office, finds his time more than occupied, without himself making any of the current observations.

The hours of *regular* observatory work are from nine to two o'clock daily, except on Sundays; and for the greater part of this time the Astronomer Royal is to be found among the assistants of the astronomical department, in the computing room; where he oversees generally the work of the Observatory, regulates what observations are to be made, receives reports of those made during the preceding twenty-four hours, and generally is open to reference on every subject connected with the instruments, the calculations, or the personal establishment. It is a rule enforced by Mr. Airy, that all communications not of the simplest kind between him and his assistants, are conducted in writing; and thus the daily details of the Observatory, to the minutest particular, are preserved for future reference. The whole of the astronomer's extensive official correspondence is likewise methodised and preserved. The labour which this entails is rendered comparatively easy by methodical habits acquired through long practice; and a remarkable example of its utility has been shown in the recent publication of the entire correspondence relative to the discovery of Neptune and the perturbations of Uranus, published in the 'Proceedings' and also in the 'Memoirs of the Royal Astronomical Society.' The correspondence includes the smallest scraps of letters which passed on this interesting subject; their ultimate importance in the history of this the greatest discovery of modern astronomy, could not at the moment have been even guessed at. Those who have read that truly interesting chapter of scientific history will admit, that whilst few persons of the most rigorous business habits could have produced from their archives a correspondence extending over so many years, and so elaborately complete, it would be still more difficult to instance a case displaying more

perfect impartiality and frankness than were shown by Mr. Airy on this occasion, under circumstances of singular delicacy.

The Astronomer Royal is more especially responsible for the results of his observations as given to the world. The labour of keeping up the computations to the level of the observations, and of following up both by the irksome correction of the press must perpetually occupy his most serious attention. From time to time elaborate reports of the state of the calculations are made to him in writing; and, generally speaking, every printed sheet is revised by him before going to press. Having thus distinctly and day by day before him the whole operations of the Observatory, any irregularity is certain to strike his eye at once and be immediately corrected.

It may be proper to state that the Astronomer Royal receives his appointment by direct warrant from the Crown; and that on the demise of the sovereign a new warrant is requisite for the re-appointment. He is termed 'Our Astronomical Observa-'tor,' as in the time of Flamsteed. Although responsible to the Board of Admiralty for the charge and delivery of chronometers for the navy, and although he receives from them instructions regarding purely official matters, the astronomer does not consider himself under the direct control of that department. There is, however, one body connected with the Observatory whose functions are too peculiar to be passed over without notice, namely, the BOARD OF VISITORS.

The original appointment (Dec. 14. 1710), by warrant of Queen Anne, of the President, Vice-presidents, and certain Fellows of the Royal Society, selected by the Council to act as visitors of the Observatory, has already been referred to (page 319.). Although the unseemly disputes between Flamsteed and the members of this commission were little creditable to the parties, and although the interference of the visitors was not altogether effectual for the purposes contemplated in the warrant, it must be owned that the appointment of a scientific board of control and inspection, intermediate between the executive government and the Astronomer Royal, was almost essential, and has been attended with the happiest effects; and, so far as we are aware, not a single serious misunderstanding has occurred between the parties since Flamsteed's death. Whilst, on the other hand, the evil consequences of the want of some such power of inspection have been witnessed in other observatories both at home, and abroad, where astronomers, after having obtained a lucrative appointment, instead of devoting themselves to their observatories, have wasted or misapplied the time for the employment of which in the scientific service of the public they were in the avowed receipt of public money.

The visitors' warrant has been from time to time renewed without very material alteration*, except that in the more recent (a copy of the latest is in our hands) the Admiralty is substituted for the Board of Ordnance, as the body to whom the visitors' report is to be made,— and the Astronomical Society is united with the Royal Society in having representatives at the Board of Visitors. On the whole, there is rather a greater jealousy shown in these warrants than in preceding ones, of the authority which was originally solely confided to the scientific visitors; and there appears a tendency to throw more power into the hands of the Admiralty, which has not, however, we believe been, in general, vexatiously exercised. The annual visitation is held at Greenwich on the first Saturday of June, when usually a considerable concourse of persons interested in science meet at the Observatory, and afterwards dine together at the *Crown and Sceptre*. There is no question but that the recurrence of this annual reunion tends considerably to inspirit the astronomer in the performance of his retired and sedentary labours. Occasionally, but not often, visitations are held at other periods. It is agreeable to perceive that, owing to the general attention and zeal of successive astronomers, the Board of Visitors have most commonly had the pleasing duty of limiting their reports to recommendations to the Government on the mode by which the suggestions of the astronomer for the advancement of his science may be best carried into effect. Such recommendations have been unusually frequent since Mr. Airy has presided over the Observatory; for no previous Astronomer Royal has taken such unceasing pains to improve to the utmost the facilities afforded him by his position for perfecting both astronomical and other observations.

Were we to single out any specialty by which Mr. Airy's conduct of the Observatory is distinguished from his predecessors, it is in the complete *reduction* of his observations. By *reduction* is technically meant the correction of the bare results recorded by the observer, for all instrumental and other appreciable sources of error, and the comparison of these results with the best existing astronomical theories, so as to afford the basis for still farther improving them. Thus every observation of the sun, moon, or planets, is made to represent the right ascension and declination of the body at a given instant; and the 'tabular

* See copies of some of these warrants and regulations in Weld's 'History of the Royal Society,' vol. i. p. 400., vol. ii. p. 27, &c., 250. 293. See also 'Baily's Flamsteed,' pp. 91. 307., and 'Rigaud's Bradley,' p. lxxii.

'place,' or right ascension and declination, computed from the best existing tables, being also calculated (usually by interpolation from the 'Nautical Almanack'), the difference is set down as the error of the Tables at that instant. Thus, likewise, the results of every eclipse or occultation observed are so represented as to give conditional equations for the correction of the elements of the solar or lunar orbits. In like manner, the observations of the stars are combined, and cleared of the effects of precession, aberration, &c.; and the improved star catalogues which are thence deduced, are from time to time inserted in the 'Greenwich Observations.' It will be seen that all this involves an immense and ever-growing labour, which never was contemplated on the compiling of the earlier volumes of that work.*

The admirable system of reductions commenced by Mr. Airy whilst Director of the Cambridge Observatory, was transferred by him to Greenwich. He appears to have been resolved to render the proceedings of our National Observatory not only the best and completest in the world, but the most accessible to men of science in their results. Accordingly, he voluntarily undertook the superintendence of the reduction of all the lunar and planetary observations of his predecessors since those of Bradley, —commencing with 1750, when, as we have observed in another part of this article, astronomy first became accurate, according to modern notions. This gigantic task, involving the minute discussion and reduction of at least fifteen thousand rough observations, made with a variety of different instruments of various degrees of perfection and adjustment, and extending over eighty years, is the greatest work of the kind that was ever attempted, and the most useful to astronomy. Every observation was compared with the corresponding tabular place, occasioning an equal number (15,000) of laborious computations,—those of the moon especially.† The mere results, printed in the most abridged form, filled three ponderous quartos, extending to 2200 pages:

* It is not to be inferred, however, that such reductions were never made, although not systematically published. Mr. Airy has borne testimony to the industry and accuracy of his predecessors, Maskelyne and Pond, in conducting several important reductions, and especially comparisons of the moon's place with the tables, as proved from MSS. existing at the Royal Observatory. See 'Report to 'Visitors,' 1839, p. 3.

† The computation of a single tabular place of the moon, of which the steps are shown in the twelfth 'Skeleton Form' of Airy's 'Lunar Reductions,' vol. i., is itself an undertaking formidable by its extent and repulsive by its intricacy. This had to be 8393 times repeated *in duplicate*.

the expense of this immense undertaking was defrayed by Government, upon an application made by the British Association for the Advancement of Science in 1833. The calculations occupied in their gradual progress at least a dozen years; proceeding latterly with the utmost celerity, as many as sixteen computers being constantly employed in the great room at Greenwich, under the immediate superintendence of Mr. Hugh Breen, who just lived to see the work completed. The summary of these computations, as regards the correction of the lunar elements, is contained in a short paper lately communicated by Mr. Airy to the Astronomical Society (vol. xvii.). It embodies in a few lines the chief results of the system of Greenwich Observatory for nearly a century!

'The process for the correction of the Elements,' Mr. Airy wrote in 1846, 'is now going on: and the extent of the work, even after so much has been prepared, almost exceeds belief. For the longitude, ten columns are added in groups, formed in thirteen different ways, each different way having on the average about 900 groups. For the ecliptic polar distance five columns are added in groups, formed in seven different ways, each different way having on the average about 900 groups. Thus it will appear that there are not fewer than 150,000 additions of columns of figures.' (Report to Visitors, 1846, p. 9.)

This prodigious work can however have but few readers. Few, indeed, are even competent to apprehend the greatness of the service it has rendered to science. No laudatory notice of it has appeared, so far as we know, in even one of our literary journals; and if testimony has been borne to its utility in one foreign periodical exclusively devoted to astronomy, the Author's main reward for so great and so gratuitous an expenditure of valuable time and anxious toil must be, that it will be a consciousness of the vastness of the boon conferred by it upon all practical and theoretical astronomers in all time coming; whilst it is also the noblest monument which human hands could rear to the venerated memories of Bradley, Maskelyne, and Pond.

Mr. Airy's Annual Reports to the Board of Visitors (printed in the 'Greenwich Observations') present a lively picture of the activity of the Observatory since 1836, and should be read by any person desiring to make himself acquainted with the details of its management. But we refer to them now as showing that the reduction of the old observations has been only one of the many important labours in which the Astronomer Royal has engaged solely from scientific zeal, and in addition to his regular official duties. Among these we find a full investigation of the method of correcting ships' compasses in iron-built ships,

the organisation and reduction of a great series of observations on the tides, particularly in Ireland, besides an elaborate treatise on the theory of tides and waves in the 'Encyclopædia Metropolitana.' As a member of the commission for restoring the lost national standards of weight and measure, it fell to Mr. Airy's lot to draw up the report embodying the conclusions from a vast mass of evidence. He was likewise a member of the Railway Gauge Commission, and at one time much of his attention was drawn away to that purely mechanical inquiry. When astronomical instruments are to be contrived or adapted for any public service, he is naturally the person to be referred to, and his instructions are frequently required by the parties who are to use them. We must quote one instance of the nature of the services in which his energies have occasion to be directed. It is given in his Report to the Observatory Visitors for 1844.

'In my last report I stated that the officers of the corps of Royal Engineers, who were to trace the Canadian Boundary, had been placed here for instruction and practice in the use of instruments under my eye. The most difficult part of the Boundary was a straight line of nearly seventy miles in length, to join two defined points. The country through which this line was to pass is described as surpassing in its difficulties the conception of any European. It consists of impervious forests, steep ravines, and dismal swamps. A survey of the line was impossible; and a tentative process would have broken the spirit of the best men. I therefore arranged a plan of operations founded on a determination of the absolute latitudes and the difference of longitudes of the two extremities. The difference of longitudes was determined by the transfer of chronometers, by the very circuitous route from one extremity to the other; and it was necessary to divide the whole arc into four parts, and to add a small part by measure and bearing. When this was finished, the azimuths of the line for the two ends were computed, and marks were laid off for starting with the line from both ends. One party, after cutting more than *forty-two miles* through the woods, were agreeably surprised, on the brow of a hill, to see directly before them a gap in the woods on the next line of hill: it opened gradually, and proved to be the line of the opposite party. On continuing the lines until they passed abreast of each other, their distance was found to be 341 feet. To form an estimate of the magnitude of this error, it is to be observed, that it implies an error of only a quarter of a second of time in the difference of longitudes; and that it is only one third of the error which would have been committed if the spheroidal form of the earth had been neglected. . . . Transits were observed and chronometers were interchanged when the temperature was lower than 19° below zero; and when the native assistants, though paid highly, deserted on account of the severity of the weather, the British officers still continued the observations, upon whose delicacy every thing depended.'

But besides these contributions to the scientific department of the public service, Mr. Airy has during his residence at Greenwich continued to communicate to the Transactions of the Royal Society of London, the Astronomical Society, and the Cambridge Philosophical Society, a multitude of papers on mechanical, optical, and astronomical subjects (including both physical and practical astronomy), which might alone have appeared to give full employment for a man otherwise at leisure. But it is not our business to enter into these details, nor to discuss the philosophical merits of the Astronomer Royal, otherwise than in his strictly official capacity.

There is a good residence attached to the Observatory, and (as we have already remarked) it would be difficult to find a spot which seems to speak more of complete repose and abstraction from the busy world (whose hum, however, is only just beyond earshot) than this forest lodge of Flamsteed House. Shall we wonder, then, if its tenant is still invested, now and then, by popular credulity, with a character uniting the *astrologer* with the astronomer? And yet shall we venture on lowering his reputation in any quarter by admitting our misgivings that, among the manifold talents and acquirements of this excellent astronomer, he may not be able to cast a nativity, or foretell what conjunction of the planets would be favourable to the British Arms? The Boards of Admiralty and Ordnance might in another age have thought that 'Our Astronomical Observator' would have been quite as well employed in thus seeking to read the heavens as in rating chronometers, or in drawing boundary lines. It is, at all events, a curious link between the present and the past, that Flamsteed on his accession to Greenwich amused himself by drawing the horoscope of the Observatory,—an accomplishment, perhaps, within the experience of few existing astronomers. Although the link is pretty well broken, there still are persons who believe that our Astronomer Royal is not always contemplating the starry sphere in vain: And, if we are not misinformed, no long time has passed since a well-dressed female called at the Observatory Gate to request a hint as to the means of recovering a lost sum of money,—and since somebody at Brighton despatched the liberal sum of *five shillings* in a Post-Office order, with a request to have his nativity cast for him in return!*

* The following epistolary specimen of the 'march of intellect,' of the year 1849, has been handed to us from the Royal Observatory. — 'I have been informed that there are persons at this Observatory 'who will, by my enclosing a remittance and the time of my birth, 'give me to understand *who is to be my wife*. An early answer, 'stating all relative particulars, will greatly oblige,' &c.

But if the Magic of astronomy has all but vanished in the 19th century, we also fear that the greater part of its Poetry has evaporated. If a young man has any lingering romance about astronomy, such as we spoke of in the commencement of this article, let him try the post of an ordinary assistant at Greenwich for six months, and we believe that he will be 'planet-struck' no more. The regular astronomical assistants are five in number, besides Mr. Main, who is in a position of general superintendence, and immediately represents the Astronomer Royal on occasions of unavoidable absence. The work of looking through telescopes is a small part indeed of an assistant's ordinary routine: for five hours daily he is seated at his desk in the computing room, copying figures, taking out logarithms, adding and subtracting; in short, performing the most tedious repetition of the simpler rules of arithmetic, with an apparently endless iteration; and tied down all the while to the impossibility of a mistake as to what to do next, by the Procrustean bed of a '*skeleton form*.' Lest these words should appear ominous of any peculiar barbarity practised in the Greenwich computing room, we will explain their meaning in a single sentence.

It is the very essence of a system of observation that the same thing is to be repeated over and over in the very same manner, perhaps every day or several times a day: thus the taking of every transit consists of the self-same steps; and the corrections requisite for placing of the wires, the error of level and collimation, and the error of the clock, though not always *numerically* the same, enter, however, in every case, into the same part of the correction of the results. Therefore a 'skeleton form' for entering and correcting a transit observation may be *printed*, in which every step of the observation or calculation shall be pointed out, and a space left for inscribing the right figures belonging to each particular observation; while in the margin there may be directions to add or subtract, to take a logarithm, or to look in a certain table for a certain correction to be applied in a certain way: thus the operator, following the steps provided for him, can no more go astray than the visitor to the Monument can quit the narrow stair which conducts him from the base to the gallery on the top. However, no pleasant view nor grateful repose awaits the computer, who has toiled to the top, or rather the bottom, of *his* column. His labour is Sisyphean; he begins just where he left off, without feeling himself either the wiser or better for what he has done. Still, like the mason of the material building within which he is engaged, he has added one brick to the edifice of human

knowledge; and grow it will, though unperceived almost by himself. Nor should we omit to add, that the mechanical effort of computation, as it requires habit and dexterity to perform it speedily and correctly, so it strangely enough yet certainly does carry with it a species of quiet pleasure almost peculiar to itself, and which none but those who have voluntarily undertaken long and monotonous calculations are likely to understand. We confess to have passed many hours and days of no mean enjoyment in this mechanical kind of occupation; and few persons acquainted with the practice of accurate science but can bear testimony to the soothing calm which may be induced by the simple act of calculation.*

The Greenwich Observatory assistant is not, however, a calculator merely; nor do his duties usually end with the hours just specified. Several days a week, at least, he is in charge of an instrument, and his duty is, whilst employed in the computing room, to keep his eye on a timepiece indicating *sidereal* time, and having regard also to a list furnished to him of objects which he is required to observe (supposing them sufficiently conspicuous to be visible by daylight through the telescope). Five minutes before the sidereal hour corresponding to the right ascension of the object, he withdraws silently to the transit or circle room, with his metallic pencil and pocket-book in hand, in which he enters the observations; next copies it, with ink, into the 'transit book,' or the 'circle book,' as the case may be, and then quietly resumes his interrupted calculation. Of course, however, more objects fall to be observed during the night than during the day; and to

* Of mechanical aids to calculation, the following are the most important: — 1. *Logarithms*, by which multiplications and divisions are reduced to additions and subtractions. 2. *Subsidiary Tables*, giving the compendious results of certain calculations which have to be frequently repeated, and which, therefore, may be done commodiously once for all. 3. The *Sliding Rule*, by which the result of multiplications and divisions are found (approximately) by mere inspection. This is used at Greenwich for many simple calculations, such as the proportional parts of clock rates for different hours. 4. Enlarged *Multiplication Table*. Crelle's useful work (2 vols. 8vo.) gives the products of all numbers under 1000 by simple inspection. 5. *Wertheimber's instrument for adding* mechanically. The headwork of adding long columns is spared; the machine *carries*, and indicates the final result. This is very useful in taking meteorological means. But caution is required to see that the machine acts correctly. 6. *Skeleton Forms*, above explained. Above 100 of these have been printed for current use at Greenwich, and are numbered consecutively. This is independent of a large number used for the old planetary and lunar reductions.

regulate the night work of the assistants so as not to render it too oppressive, is one of the Astronomer Royal's indispensable, but very troublesome concerns — to exact what is right and necessary, but not to harass his subordinates with exhausting work of inconsiderable value. Each assistant set down for observing duty on a given day has, as a general rule, to watch for the objects marked as essential to be observed from 3 A.M. (or 15h. in the astronomer's language) to 3 A.M. of the following day. But he is not to sit up the whole night that he may note the place of all the stars which may be on his observing list, unless for some special reason. But he is expected (suppose him to be at the transit) to observe a sufficient number of 'clock-stars' to ascertain the clock-error for that day; and to take as many observations as he can whilst waiting for the moon or a planet, or *Polaris*, (used for the verification of the adjustment of the transit instrument). The altitude and azimuth instrument, destined specially for lunar observations off the meridian, is to be used at whatever hour the moon can be seen (by reason of clouds, &c.) between sunset and moonset, or before sunrise and after moonrise. The object being to obtain the moon's place in the parts of her orbit nearest to the sun, a good many morning watches are required every month. Mr. Airy states that this laborious duty is performed by the assistants with great fidelity and zeal.

The assistants have two rooms appropriated to their use (besides Mr. Main's room) during the intervals of night observations, but none of them reside on the premises. Fortunately for them, a track of bad weather sometimes gives a welcome holiday; whilst a course of uninterrupted sunshine (which, thanks to our climate, seldom happens) menaces the establishment with fever and apoplexy. The dogdays are the astronomers' harvest time; for (notwithstanding the apparently splendid starlight nights of winter) winter is the real holiday at Greenwich, as an inspection of the printed observations will show. The prevalence of cloudy weather is greatest in the winter and least in the summer quarter. Such is the return given by the 'Greenwich Observations' for 1846, although the proportion of covered sky is not so different at different seasons, as an inspection of the printed observations (which show a great preponderance of work done in summer) would lead us to expect. On an average of the whole year 1846, during day and night, *seven tenths* of the sky are always cloudy! The night on the whole is clearer than the day. The forenoon hours are the most cloudy, the evening least so. It is wonderful on the whole, considering the proverbial badness of our sky, how few days occur alto-

gether blank in the astronomer's year; for proof of which we again refer to the printed 'Observations.'

There is one remarkable peculiarity which has been found to be connected with the act of observation in astronomy when *time* is to be ascertained: it is what is called the *personal equation* of the observer. This phrase expresses the curious but well established fact that some persons, equally careful and experienced with others, *invariably* perceive a phenomenon (such as the passage of a star across the wires of the transit instrument) somewhat later in point of time; so that, in the determination of clock rates (the most fundamental of all astronomical determinations), such an observer would make the clock appear to be *too fast* in every instance. In a mutual comparison of personal equations, among twelve persons employed at Greenwich in 1846 ('Greenwich Observations,' p. xxvii. &c.), it was found that there was an extreme average difference of *three quarters of a second* between two of these,—a quantity by no means to be safely neglected; consequently, all observations are reduced to the standard of sight of one individual arbitrarily selected. In the recent reduction of the older Greenwich observations this correction was not overlooked; and for this reason (as well as others which are obvious) every observation is entered and printed with the initials of the person making it. From observations with the altitude and azimuth instrument it is believed that, in some peculiar instances, the transit of the *limb* of a body, with a disc like the moon or a planet, is observed differently (as respects the personal equation) from that of a star.*

The same assistant is never put upon heavy observing work two nights running; nor is he expected to appear in the computing room early in the morning if he has been observing during the night. On the whole, however, the observations are lighter work than the calculations; and the former are always running a-head of the latter. It requires the utmost vigilance on the part of the director to see that the calculations are duly kept up; and for this purpose he has an occasional report made to him (which has been already referred to) of the exact state of every department of calculation or reduction. This document —which is itself a curiosity—gives a better idea of the extent of the labours of computation required to make observations useful to science than any thing else could do. It extends to seven printed pages, in small folio, for astronomical calculations, and six pages for magnetism and meteorology; and these pages contain the mere heads or entries of the data and reduc-

* See Mr. Airy's 'Report to Visitors,' 1849, p. 10.

tions. From these, and from the daily reports of what has been actually observed, the director of the Observatory knows exactly what is doing in each department. Whenever, owing to a course of fine weather, to the appearance of a batch of comets, or any other event which produces over-work in the establishment, the reductions fall considerably behind, the astronomer lays on more computing power, by employing certain occasional assistants, for whose pay he is very judiciously authorised by Government to expend a certain sum annually. This supplementary body has contributed very materially to the efficiency of the Observatory, and has enabled it to secure many most important objects at a very small additional expense. It is easy to see that when so expensive and elaborate an institution as a National Observatory is in full and active operation, an exceedingly small addition of manual power will immensely increase the useful work which it can accomplish.

As a general rule, Sunday is a holiday: only the moon's place is observed and the time-ball dropped, — operations requiring but one assistant, and for a short time. A great improvement this on the looser practice of former times, when observations of all kinds were made on Sundays.

Besides Sunday, the establishment has a monthly holiday (as far as calculation is concerned). This is judiciously selected at or near new moon, when our troublesome satellite cannot be observed. Each assistant has also from four to five weeks of leave during the year, at such time or times as can be arranged most conveniently for himself. The Astronomer Royal takes a like holiday; and no person in the Queen's dominions deserves it better. Although an old rule of the Visitors provided that he should never be more than ten days absent without leave, at no time was this probably more than a form. The Astronomer Royal and the chief assistant, however, are never absent at once.

The arrangements of the Magnetical Observatory may be inferred, generally, from what has been now stated concerning the Astronomical department. The observations being perfectly regular and unintermitted day or night, independently of the state of the weather, would seem to be more harassing in that particular; and the observers were originally required to give proof of their actual attendance at the specified hours by pushing in the pin of a *tell-tale*, or *watchman's clock*, — an instrument so contrived as to register the time at which the thrust has been made, and thus insure the presence and wakefulness of the party on duty: but this irksome system of control is now happily superseded by Mr. Brooke's invention of the photographic regis-

tration of the magnets. With regard to calculations and reductions, those of the magnetic and meteorological department are, on the whole, vastly inferior in point of labour and extent to the astronomical ones.* The calculations of averages are, however, very laborious.

The printing department is not the least oppressive to the Observatory corps. The observations being printed in a form different from that in which they are necessarily entered into the 'skeleton forms' for the purpose of reduction, they must be copied for the press. But to avoid the effects of clerical errors, the first proof sheets are read along with the entries in the computing books. Even the unrivalled excellence of London printers cannot supersede the labours of the Observatory assistants. When so many mistakes may occur, — not only from putting one figure for another, but also from error of *sign*, + or −, (although this, the most fertile, because the simplest, source of all blunders, has been reduced to a minimum through the exclusion of signs, by Mr. Airy, in every practicable case, corrections being, as a general rule, made positive) as well as from misplacing figures in columns imperfectly filled, — the utmost vigilance is required, and is never at last *perfectly* successful. The *reading* of a sheet of eight quarto pages employs the time of two assistants for two mornings. It will be seen at once how much labour is consumed in the course of the year in this merely mechanical process. The number of copies printed of the ordinary observations is 350, and the expense is regulated and defrayed by the Stationery Office: it was formerly in the department of the Ordnance.

We have now attempted to give a tolerably complete idea of the manner of working our *one* national and purely scientific establishment, — what is the nature of its occupations, and what has been its measure of success. It is of peremptory necessity, in so populous a vicinity, that the admission to the Observatory itself of the general public should be absolutely interdicted. A suspension of all business and the injury of the instruments would be the inevitable consequence of a different rule; and it appears, from the records of the Observatory and of the Board of Visitors, that these evils have actually occurred. At present, therefore, no one not officially connected with the public service, and not himself a man of recognised scientific

* We must except, however, the determination of *absolute* horizontal intensities; but this most interesting experiment is not often made, and the results appear to be still affected by unestimated sources of error.

character, can be admitted into the Observatory, and these only by a suitable introduction to the Astronomer Royal. Curiosity is naturally enhanced when its gratification is difficult: and it is for this reason that we have tried to give some idea of Greenwich Observatory to those who may not have an opportunity of visiting it themselves; and to render a visit more instructive to those who may be so privileged.

We have said that the instrumental department is now, even at the time we write, undergoing a great, in some measure even a radical, change. Mr. Airy is trying the great experiment of using a more powerful telescope than has yet been applied to divided circular instruments of the highest accuracy; and he is likewise combining the transit and meridian circle into one instrument.* The result of the combination is a telescope eight inches aperture and twelve feet long, which will be connected with a vertical circle six feet in diameter, the whole being framed in cast iron and mounted upon two independent piers furnished with Y's by means of a transverse axis of great strength. It is not intended, however, to be reversed like a transit instrument, but the line of collimation will be adjusted by means of two fixed telescopes. It will be the joint work of Messrs. Ransome and May of Ipswich, and of Mr. Simms of London. We have already stated that a new zenith tube on an original construction is in progress. It is not hoped that results will be obtained with the transit circle very much superior to those obtained from the excellent instruments hitherto in use; but the state of science generally, and particularly the multitude of small planets recently discovered, call for the application of a higher power, and of telescopes with a greater command of light than those which have heretofore been used. The employment of an enlarged telescope requires the remodelling of every part of the apparatus, so as to support the increased weight.

In drawing this lengthened article to a conclusion, we are bound to make explicit acknowledgments to the Astronomer Royal for the aid he has given us in obtaining the minutest information connected with every part of the Observatory and its management: without which information, it is needless to say, that our intended object could not have been fulfilled†:

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* The plan of a reversible transit circle is due to Römer, who set one up in 1690. After having been abandoned for more than a century, it is now adopted in the finest modern observatories.

† Our thanks are also due to Mr. Main, the assistant-in-chief; and to Mr. Glaisher, the principal assistant in the Magnetic Department, for valuable information politely communicated by them.

And while we express our admiration of the singular combination of qualities which he possesses for the management of a National Observatory, we cannot but add our sincere hope, both for his own sake and for the public benefit, that his life and vigour may be long preserved.

Postscript. Since this article was written and put in type, we have had the pleasure of seeing a volume of 'Popular Lectures on Astronomy,' by Mr. Airy, printed from short-hand notes taken at Ipswich, where the lectures were delivered, in 1848, to a numerous audience of a mixed character. They contain a very clear and popular exposition of the more practical parts of astronomy, couched in plain, precise, and highly graphic language. They are published in a neat form with clear illustrative plates, for behoof of the Ipswich Museum. Had they been sooner in our hands, we should not have failed to refer frequently to them in the course of these pages. But we are happy to be able to recommend to our readers a work which contains, in so elementary a shape, so large an amount of valuable and accurate information.

ART. II. — *Elementary Sketches of Moral Philosophy, delivered at the Royal Institution, in the Years* 1804, 1805, *and* 1806. By the late Rev. SYDNEY SMITH, M.A. London, 1849. Pp. 424.

THIS volume — printed, but, at the time we are writing, not yet published — appeals not to our tribunal; one hundred copies only have been issued to gratify the eye of private friendship. Under such circumstances, we feel little disposition to make it the subject of detailed criticism; nor would our disinclination for the task be removed, even were the merit of the volume much less or its faults much greater than they will either of them be found to be. For the deficiencies in a posthumous work, the publication of which was neither contemplated nor desired by him, the author cannot properly be held responsible. It is its merits alone, which are indeed his own. But in the present case those merits may be more gracefully made the subject of minute criticism anywhere than in this Journal, the pages of which have been so often illuminated by his wit and genius. Of that wit and genius it is not now necessary, here or elsewhere, to enter into a critical estimate. Sydney Smith has had his due place of honour long assigned him. We shall better occupy the little space allotted to us by presenting our readers with a

few brief specimens of that vigorous intellect—a few scintillations of that brilliant wit—which in past times have so often delighted them.

But alas! there are other reasons for inexpressible reluctance to assume the critic's office in the case before us. The duty has been virtually performed by one—and it was the last office of the kind he ever did perform—than whom none could perform it more justly or more kindly;—by one of whom we do not venture to say more at present. We refer to that illustrious friend of Sydney Smith who, in conjunction with him and other men of genius, projected the present Journal, and who presided for so long a series of years over the tribunal of criticism he had established, with a taste, skill, and energy, on which the public has already long since pronounced its judgment. He has now passed from among us; but his name and memory are embalmed in the veneration and affection of all who knew him.

Lord Jeffrey had received the present volume and was engaged in perusing it, only a few days before his death. The delight it gave him, and the spirit in which he seized the opportunity it afforded him of expressing his sense of the merits he had overlooked at first, are so strikingly characteristic of his candour and generosity of nature, that we must not suppress a brief account of what passed on the occasion.

The notes of these lectures, delivered nearly half a century ago—about the period, in fact, when the two friends first commenced their long literary career,—were never prepared or designed for publication. Their author had even often resolved on their destruction; and on one occasion partly accomplished his purpose. His family naturally begged a reprieve, and wisely as well as naturally; for, as old Fuller says of Herbert's remains, even 'shavings of gold are carefully to be kept.' At his death, the interest of the family in them was renewed. Anxious to ascertain the propriety or otherwise of giving these lectures to the public, and knowing how well they could rely on Lord Jeffrey's judgment and kindness, Mrs. Smith sent the manuscript to him for his opinion. He,—doubtless feeling much more strongly than the generality of men, how much injustice is often done to genius by publishing what itself would be mortified to think should see the light without the advantage of careful revision, and perceiving also, on a slight and partial inspection, that some parts of the present work would require that revision to do them full justice,—advised that the volume should not be published. Out of acquiescence, we may presume, in this sentence, a few copies only were struck off in the first instance for private circulation.

And now comes the incident which it is such a pleasure to record. On perusing the volume in print, Lord Jeffrey at once discerned, in spite of *hiatus*, mutilations, and imperfections, so many indications of the 'vis vivida' of genius—so many traces of originality, splendour, and power—that he lost no time in writing to Mrs. Smith a beautiful letter, retracting his former cautious judgment in the amplest manner. 'I cannot rest,' said he, 'till I have not merely expressed my thanks to you for the 'gratification I have received, but made some amends for the 'rash, and I fear somewhat ungracious, judgment I passed upon 'it, after perusing a few passages of the manuscript some years 'ago. I have not recognised any of these passages in any part 'of the print I am reading, and think I must have been unfor-'tunate in the selection, or chance, by which I was directed to 'them. . . . . I am now satisfied I was quite wrong. My 'firm impression is, that, with few exceptions, they will do him 'as much credit as any thing he ever wrote; and produce, on 'the whole, a stronger impression of the force and vivacity of 'his intellect, as well as a *truer* and more engaging view of his 'character than what the world has yet seen in his writings. 'Some of the conclusions may be questionable, but I do think 'them generally just, and never propounded with anything like 'arrogance, or in any tone of assumption; and the whole sub-'ject treated with quite as much, either of subtlety or pro-'fundity, as was compatible with a popular exposition of it. I '*retract*, therefore, peremptorily and firmly, the advice I for-'merly gave against the publication of these discourses.'

It was traits like these—of sweetness, frankness, and fearless love of truth; the rare magnanimity which made him ever ready to recant an error, when he had reason to suspect that he had been betrayed into one,—traits beautifully displayed in his introduction to his essays reprinted from this Journal,—which not only endeared him to so large a circle of friends, but rendered it impossible for him to have any permanent enemies. Such qualities had, in fact, long before his death, conciliated towards him the esteem and affection of most of those who, in earlier years, thought they had reason to complain of the severity of the criticisms which he had either himself passed, or had suffered others to pass, on their productions. Even literary animosities —the most embittered, perhaps, of any—could not but yield before the genial warmth of his frank and kind-hearted nature. These traits made him more truly great than the opulence of his knowledge—the elegance of his fancy—the acuteness of his logic—or the vigour and the versatility of his genius.

After such a testimony, we trust that the publication of these

'Elementary Sketches' may be confidently reckoned upon — perhaps before the appearance of our present number: in which case it is to be hoped that this beautiful and instructive letter will be prefixed to them.

Paradoxical as the statement may seem, we think there was sufficient reason for Lord Jeffrey to affirm both his earlier and his later judgment; reason, in the first instance, for his caution, — prompted doubtless by a genuine solicitude for his friend's reputation, — and reason for his subsequent retractation on seeing the whole in print. He perceived that the volume, after all deductions, was everywhere so pervaded with vigorous thought, and so adorned by felicitous illustration, as to render it not only not unworthy of Sydney Smith's genius, but an acceptable contribution to the literature of mental philosophy: Not to mention the numerous passages which, as often as the lecturer has occasion to apply his philosophy to the business and bosoms of men, do the greatest honour to the elevation of his sentiments and the humanity of his heart.

In truth, we are disposed to concur with Lord Jeffrey, in thinking, that however some *hiatus* may be 'lamented,' and certain modifications desiderated, this volume will raise Sydney Smith higher in the esteem of the public, as a thinker, than any of his previous writings. He has been by many principally regarded as a man of exquisite wit indeed, but of little more than wit; of infinite facetiousness, but with moderate powers of argument or speculation, at least in relation to abstract science. We are much mistaken if these pages do not vindicate his claim to rank with philosophers; whether he be not an illustration of his own theory, propounded in one of these lectures, and more than once propounded by other writers in this Journal, — that great wit rarely exists alone; that few men have ever possessed it in extraordinary measure, without being *capable* by nature of achieving something higher and better than its own triumphs; a theory supported by the fact that in one or other of its diversified modes, it has been an almost inseparable concomitant of the most splendid forms of genius — whether in the departments of philosophy, poetry, or eloquence.

There are few parts of these lectures over which it is possible to glance, especially when we bear in mind the abstruseness of the subject, and the youthfulness of the professor, — difficulties not likely to be lightened by the necessity of descanting on such themes before a popular and miscellaneous audience, without being struck with the indications of power which they everywhere present. Inexhaustible vivacity and variety of illustration one would, of course, expect from such a mind;

but this is far from being all. The sound judgment and discrimination with which he often treats very difficult topics, —the equilibrium of mind which he maintains when discussing those on which his own idiosyncracy might be supposed to have led him astray—of which an instance is seen in his temperate estimate of the value of wit and humour,—the union of independence and modesty with which he canvasses the opinions of those from whom he differs,—the comprehensiveness of many of his speculations, and the ingenuity of others, —the masterly ease and perspicuity with which even abstruse thoughts are expressed, and the frequently original, and sometimes profound remarks on human nature to which he gives utterance—remarks hardly to be expected from *any* young metaphysician, and least of all from one of so lively and mercurial a temperament,—all render these lectures very profitable as well as very pleasant reading; and show conclusively that the author might, if he had pleased, have acquired no mean reputation as an expositor of the very arduous branch of science to which they relate. Doubtless there is many a 'bone' in these lectures which a keen metaphysician would be disposed to 'pick' with the author; for when was a metaphysical banquet spread without abundance of such meagre fare? Still the general merits of the volume every man of sense will assuredly admit to be very great.

But our readers will feel that our rapidly dwindling space had better be devoted to giving them some light prelibation of the contents of this interesting volume, than to further disquisition on either its merits or defects; and to this accordingly we proceed.

When Sydney Smith undertook to popularise to a London audience the subject of Mental Philosophy, he was just fresh from the schools of Edinburgh, where he had heard Dugald Stewart and Thomas Brown prelecting on their favourite science. It is impossible to conceive an assembly less adapted to the reception of such mysteries than a metropolitan audience of that period. It would have been almost as hopeful for a Stoic to lecture on Zeno's system in the Garden of Epicurus.

The title of the lectures will be apt to mislead many readers of the present day. The author uses the words 'Moral Philo-'sophy' in the sense in which they were currently accepted in the schools in which he had been studying; as including, that is, not only, what they are so often now used to import, Ethics properly so called, but the whole of what is denominated at present 'Mental Philosophy.'

The Introductory Lecture is certainly not the least interesting

in the volume. The following remarks on the alleged uncertainty and vagueness of the science are very characteristic:—

'The existence of mind is as much a matter of *fact* as the existence of matter; it is as true that men remember, as that oxygen united to carbon makes carbonic acid. I am as sure that anger and affection are principles of the human mind, as I am that grubs make cockchafers; or of any of those great truths which botanists teach of lettuces and cauliflowers. The same patient observation, and the same caution in inferring, are as necessary for the establishment of truth in this science as in any other; rash hypothesis misleads as much, modest diligence repays as well. Whatever has been done for this philosophy has been done by the inductive method only; and to that alone it must look for all the improvement of which it is capable. . . . . .

'A great deal of unpopularity has been incurred by this science from the extravagancies or absurdities of those who have been engaged in it. When the mass of mankind hear that all thought is explained by vibrations and vibratiuncles of the brain,—that there is no such thing as a material world,—that what mankind consider as their arms and legs are not arms and legs, but *ideas*, accompanied with the notion of *outness*; that we have not only no bodies, but no minds,—that we are nothing, in short, but currents of reflection and sensation;—all this, I admit, is well calculated to approximate in the public mind the ideas of lunacy and intellectual philosophy. But if it be fair to argue against a science from the bad method in which it is prosecuted, such a mode of reasoning ought to have influenced mankind centuries ago to have abandoned all the branches of physics as utterly hopeless. I have surely an equal right to rake up the mouldy errors of all the other sciences,—to reproach astronomy with its vortices,—chemistry with its philosopher's stone,—history with its fables,—law with its cruelty and ignorance,—and if I were to open this battery against medicine, I do not know where I should stop. Zinzis Khan, when he was most crimsoned with blood, never slaughtered the human race as they have been slaughtered by rash and erroneous theories of medicine.

'If there be a real foundation for this science, if observation can do *anything*, and has not done all, there is room for *hope*, and reason for exertion. The extravagancies by which it has been disgraced, ought to warn us of the difficulty, without leading us to despair. To say there is no path, because we have often got into the wrong path, puts an end to all other knowledge as well as to this.

'The truth is, it fares worse with this science than with many others, because its errors and extravagancies are comprehended by so many. . . . . Every man is not necessarily an astronomer, but every man has some acquaintance with the operations of his own mind; and you cannot deviate *grossly* from the truth on these subjects without incurring his ridicule and reprehension. This perhaps is one cause why errors of this nature have been somewhat unduly magnified.'

Nor less characteristic are the observations in confutation of the asserted tendency of the science to foster scepticism:—

'Scepticism, which is commonly laid to the charge of this philosophy, may, in the first place, be fairly said to have done its worst. Bishop Berkeley destroyed this world in one volume octavo; and nothing remained after his time, but mind—which experienced a similar fate from the hand of Mr. Hume, in 1737; so that, with all the tendency to destroy, there remains nothing left for destruction: but I would fain ask if there be any one human being, from the days of Protagoras the Abderite to this present hour, who was ever for a single instant a convert to these subtle and ingenious follies? Is there any one out of Bedlam who *doubts* of the existence of matter? who doubts of his own personal identity? or of his consciousness, or of the general credibility of memory? Men *talk* on such subjects from ostentation, or because such wire-drawn speculations are an agreeable exercise to them; but they are perpetually recalled by the necessary business, and the inevitable feelings of life, to sound and sober opinions on these subjects. Errors, to be dangerous, must have a great deal of truth mingled with them; it is only from this alliance that they can ever obtain an extensive circulation; from pure extravagance, and genuine, unmingled falsehood, the world never has, and never can, sustain any mischief. It is not in our power to believe all that we please; our belief is modified and restrained by the nature of our faculties, and by the constitution of the objects by which we are surrounded. We may believe anything for a moment, but we shall soon be lashed out of our impertinence by hard and stubborn realities. A great philosopher may sit in his study, and deny the existence of matter; but if he goes to take a walk in the streets he must take care to leave his theory behind him. Pyrrho said there was no such thing as pain; and he saw no *proof* that there were such things as carts and waggons; and he refused to get out of their way: but Pyrrho had, fortunately for him, three or four stout slaves, who followed their master, without following his doctrine, and whenever they saw one of these ideal machines approaching, took him by the arms and legs, and, without attempting to controvert his arguments, put him down in a place of safety.' (P. 7.)

The following observations are in a higher mood:—

'But what are we to do? If the enemies of religion derive subtlety and acuteness from this pursuit, ought not their own weapons to be turned against them? And ought not some to study for defence if others do for the purposes of aggression? When the old anarch Hobbes came out to destroy the foundations of morals, who entered the lists against him? Not a man afraid of metaphysics, not a man who had become sceptical as he had become learned, but Ralph Cudworth, Doctor of Divinity; a man who had learned much from reading the errors of the human mind, and from deep meditation, its nature;—who made use of those errors to avoid them, and derived from that meditation principles too broad and too deep

to be shaken; such a man was gained to the cause of morality and religion by these sciences. These sciences certainly made no infidel of Bishop Warburton, as Chubb, Morgan, Tindal, and half a dozen others found to their cost. . . . Locke was no sceptic, nor was Lord Verulam. Malebranche and Arnauld were both of them exceedingly pious men. We none of us can believe that Dr. Paley has exercised his mind upon intellectual philosophy in vain. The fruits of it in him are sound sense, delivered so perspicuously, that a man may profit by it, and a child may comprehend it.

'I have already quoted too many names, but I must not omit one which would alone have been sufficient to have shown that there is no necessary connexion between scepticism and the philosophy of the human mind: I mean Bishop Butler. To his sermons we are indebted for the complete overthrow of the selfish system, and to his "Analogy" for the most noble and surprising defence of revealed religion, perhaps, which has ever yet been made of any system whatever.'

In a yet finer style are the remarks on the proofs which the mind itself affords of a Divine Creator—a subject not yet fully worked out, by either Dr. Chalmers or by any of the several writers whom Dr. Turton has enumerated in his 'Natural 'Theology;' and which requires, to do it full justice, the deliberate labours of a mind—if ever there shall be such a prodigy—uniting the metaphysical depth of Butler with Paley's felicity of *representation*:—

'But there is no occasion to prop this argument up by great names. The school of natural religion is the contemplation of nature: the ancient anatomist, who was an Atheist, was converted by the study of the human body; he thought it impossible that so many admirable contrivances should exist, without an Intelligent Cause: and if men can become religious from looking at an entrail, or a nerve, can they be taught Atheism from analysing the structure of the human mind? Are not the affections and passions, which shake the very entrails of man, and the thoughts and feelings which dart along those nerves, more indicative of a God than the vile perishing instruments themselves? Can you remember the nourishment which springs up in the breast of a mother, and forget *the feelings which spring up in her heart?* If God made the blood of man, did he not make that *feeling*, which summons the blood to his face, and makes it the sign of guilt and of shame? You may show me a human hand, expatiate upon the singular contrivance of its sinews and bones—how admirable, how useful for all the purposes of grasp and flexure! *I* will show you, in return, the mind, receiving her tribute from the senses;—*comparing, reflecting, compounding, dividing, abstracting;*—the passions, *soothing, aspiring, exciting*, till the whole world falls under the dominion of *man;* evincing that in his mind the Creator has reared up the noblest emblem of his wisdom and his power. The philosophy of the human mind is *no* school for infidelity, but it

excites the warmest feelings of piety, and defends them with the soundest reason.' (P. 11.)

The observations on the *utility* of the science are distinguished by a most judicious moderation — moderation the more admirable when it is considered that it is almost an uniform tendency of the juvenile metaphysician to form exaggerated estimates of the *practical* value of his favourite pursuits; and that the distinguished man, at whose feet Sydney Smith had so reverently sat as pupil, had prophesied all sorts of splendid results from the more vigorous prosecution of the inductive science of Mind, — in relation particularly to education, legislation, and political economy. Such prospects, it need hardly be said, have not been realised; nor in our view are they likely to be. This branch of science, indeed, will be always worthy of the profound study of an intelligent nature; for what, in truth, can be worthy of it, if the very structure and mechanism of that very nature itself be not? These subjects are worthy of investigation quite apart from any presumed utility; just as there are many other things which we all study, and many study deeply, from the *direct* use of which not one in a million anticipates the actual making of two-pence. As to the immediately practical bearings of Mental Philosophy on Education, we apprehend, with Sydney Smith, that all its more important facts have been pretty patent to mankind for thousands of years. And it may be added, that the application even of these more obvious facts depends much more on practical tact, skill, and habit, than on any profound knowledge of their theory. The best schoolmasters, we suspect, have not been, nor are likely to be, the most refined mental analysts.

The *real* utility of the science consists in its being a peculiar *discipline*, a valuable system of intellectual gymnastics; in its immediate influence on our *habits* of thinking, investigation, and expression; and in the light it throws on the criticism of the greatest of the Fine Arts, more particularly on poetry and eloquence, — the philosophy of which is, in fact, a section of the science of mind. In these points of view, and especially in the two first, the utility of the science cannot be easily exaggerated; like language and the mathematics, it forms an essential part of that just and comprehensive training which must be employed in order to develope, in harmonious proportion, *all* the faculties of the human mind. These branches of education are all supplementary to one another; not one can be wisely dispensed with. Their capacity of *direct* application is in most cases secondary to their value as a discipline. But though not one person in a hundred may ever need to make use, in ordinary life, of the formulæ of Trigonometry, or the Calculus, or to

refer to Descartes' Theory of 'Innate Ideas,' or Berkeley's 'Theory of Vision,' it is sufficient if the studies such things involve have ministered, better than any other branches of mere discipline could, to form a well-proportioned, active, healthy, robust mind, master of its faculties, and capable of using them powerfully and effectively in any direction in which the exigencies of life may require them to be employed.

'Of the *uses* of this science of Moral Philosophy, one is the vigour and acuteness which it is apt to communicate to the faculties (P. 14.) . . . . The subtleties about mind and matter, cause and effect, perception and sensation, may be forgotten; but the power of nice discrimination, of arresting and examining the most subtle and evanescent ideas, and of striking rapidly and boldly into the faintest track of analogy, to see where it leads, and what it will produce; an emancipation from the *tyranny of words*, an undaunted intrepidity to push opinions up to their first causes;—all these virtues remain in the dexterous politician, the acute advocate, and the unerring judge. . . . . It may be of incalculable advantage to me, at an early period of life, to guard my understanding from the pernicious effects of association, though those effects cannot now be pointed out for the first time. I might have learned something about association, *without* the aid of this science, by the mere intercourse of life, but I should not have learned that lesson so early and so well. I am no longer left to gather this important law of my nature from accidental and disconnected remark, but it is brought fully and luminously before me;—I see that one man differs from another in the rank and nobleness of his understanding, in proportion as he counteracts this intellectual attraction of cohesion; I become permanently and vigilantly suspicious of this principle in my own mind, and when called upon in the great occasions of life to think and to act, I separate my judgment from the mere accidents of life, and decide, not according to the casualties of my fortune, but the unbiassed dictates of my reason: without this science I might have had a general and faint suspicion, with it I have a rooted and operative conviction of the errors to which my understanding is exposed.'

We shall not detain the reader any longer on that portion of the volume which embodies the first course of lectures, to which (if to any) the modest language of the preface is, as it seems to us, most applicable. Since they are, for the most part, a restatement of the doctrines which the metaphysicians of the Scotch school had taught respecting the 'Faculties' of the mind; though illustrated with all the novelty and freshness which the author threw over everything he touched. These early lectures are also frequently imperfect, and in some places provokingly abound in those unhappy printers' 'stars,' which shed darkness instead of light.

The lectures on 'Wit and Humour,' a right facetious subject,

treated, one may be assured, *con amore;* as well as those on the 'Beautiful and Sublime,' and on the 'Faculties of Animals,' are unmutilated, and are distinguished, we think, by many original observations, as striking from their matter as their manner. It is from these we shall make our necessarily parsimonious selections.

The lectures on 'Wit' open with a very admirable and acute survey of the principal attempts to define that Protean thing. The author points out as he proceeds the defects of each; he shows that Barrow's celebrated description is but an enumeration of its forms, instead of a definition of its essence; that Cowley, in a similar manner, has exemplified instead of defining it; that Addison's papers on the subject in the 'Spectator' rather tell us how to 'form a just taste in wit than to explain what 'it is.'

'Dryden says of Wit, that it is a propriety of thoughts and words, or thoughts and words elegantly adapted to the subject; but there is a propriety of thoughts and words in one of Blair's sermons which I never yet heard praised for their wit. And the thoughts and words are elegantly adapted to the subject in Campbell's "Pleasures of "Hope," which is something much *better* than a witty poem. Pope says of wit,—

'"True wit is Nature to advantage drest,
Oft thought before, but ne'er so well exprest."

Then the *Philippics of Cicero*, the *Orations of Demosthenes*, are witty; Cæsar's Commentaries are witty; Massillon is one of the greatest wits that ever lived; the Oraisons Funèbres of Bossuet are prodigies of facetiousness. Sir Richard Blackmore's notion of wit is, that it is a series of high and exalted ferments. It very possibly *may* be; but, not exactly comprehending what is meant by a "series "of high and exalted ferments," I do not think myself bound to waste much time in criticising the metaphysics of this learned physician.' (P. 117.)

'"Wit," says Johnson, "may be more rigorously and philosophi-"cally considered as a kind of *concordia discors*,—a combination of "dissimilar images, or discovery of occult resemblances in things "apparently unlike;" but, if this be true, then the discovery of the resemblance between diamond and charcoal, between acidification and combustion, are pure pieces of wit, and full of the most ingenious and exalted pleasantry.' (P. 120.)

'Hobbes defines Laughter to be a sudden glory arising from a sudden conception of some eminency in ourselves by comparison with infirmity of others, or our own former infirmity. . . . . Taking the language of Hobbes to mean the sudden discovery of any inferiority, it will be very easy to show that such is *not* the explanation of that laughter excited by humour: for I may discover suddenly that a person has lost half-a-crown,—or that his tooth aches,—or that his

house is not so well built, or his coat not so well made, as mine; and yet none of these discoveries give me the slightest sensation of the humorous. If it be suggested that these proofs of inferiority are very slight, the theory of Hobbes is still more weakened by recurring to greater instances of inferiority: for the sudden information that any one of my acquaintance has broken his leg, or is completely ruined in his fortunes, has, decidedly, very little of humour in it;—at least, it is not very customary to be thrown into paroxysms of laughter by such sort of intelligence.' (P. 136.)

In the same manner, Locke's theory of wit is shown to include much more than is now or long has been ordinarily attached to the term. We doubt, however, whether our author (or Dugald Stewart, when commenting on the same passage of Locke) sufficiently adverted to the fact that the word 'wit' was used in Locke's day in a much less restricted sense than at present,—a sense, of which the expression 'mother wit' is a remnant,—when, in fact, a man of wit was nearly synonymous with a man of genius.

The theory which finds most favour in our author's eyes is that laid down by Campbell in his 'Philosophy of Rhetoric.' He describes it as the best to be found in our language, and, perhaps, on the whole with justice. But this, too, is faulty; at least it certainly includes far more than the word is now employed to designate.

The lecturer then proceeds to give us *his own* theory, which, as so often happens, is less satisfactory than his refutation of the theories of others. He defines 'wit' to be the result of 'any 'discovery of relations amongst our ideas,' attended by *surprise*, and that *only*. Surprise, he contends, and justly, often attends a perceived relation among ideas, provocative of far different emotions from that elicited by wit; as, for example, those of the beautiful or sublime; and that it is even true that there are many instances in which such 'surprising discovery of relations' has not the effect of wit, simply because all thought of wit is quenched in the beautiful or sublime. But he thinks, that where *surprise* only — unadulterated surprise — is the result, that then in every case we have *wit;* and that, if this be so, this constitutes its essence. He acknowledges that his definition had not given universal satisfaction, and that, to use his own expression, the week which followed the announcement of his definition was 'one of the most polemical that ever he remem-'bered to have spent in his life.' He defends himself against his objectors, who adduced many examples of *facts* which occasion pure surprise, without producing any sense of facetiousness, —facts which all of us experience to be unpleasantly plentiful,

— by saying that he did not mean that any surprising *facts* will produce the effect of wit, but any surprising 'relations 'amongst *ideas.*' We cannot say that the theory, even thus limited, will satisfy us. It seems undeniable that there are many 'surprising relations' discovered amongst 'ideas;' as, for example, those by which the algebraist often most unexpectedly solves a difficulty, or those which characterise some half score of the ingenious interpretations of the mysterious number in the Apocalypse, which produce no sense of the 'witty' any more than of the 'beautiful.' They affect the mind in precisely the same manner as the discovery of the relations between the parts of some ingenious mechanical contrivance. Some of Sydney Smith's 'polemical' friends might probably plead even his own definition of wit against itself, and affirm, that though it was certainly a *surprise* to them to find 'any surprising relation be-'tween ideas' denominated the essence of wit, they felt none of the appropriate emotion of wit in that surprise.

It appears to us, we frankly confess, that, though a *pleased surprise* is a very general, perhaps uniform accompaniment and condition of the emotions both of 'beauty' and 'wit,' it is in itself as little the *essence* of one as of the other. Though it should be supposed uniformly coincident with both, it is obviously more extensive than either. If this be so, it will still require some limiting terms to define those cases, neither more nor less, in which the surprise, as felt, is coincident with wit. That is, the essence of wit is still to be sought.

Such a definition we certainly shall not attempt; and instead of pursuing this difficult subject, shall prefer, as our readers will also prefer, enjoying some of the passages of these lectures in which Sydney Smith has at all events exceedingly well *illustrated* the nature of wit, however he may have failed to exhibit its theory.

The remarks on the necessity that we should learn betimes how to defy ridicule, in adherence to our convictions of right, are admirable, and admirably expressed; nor less so those on the limits which wit must prescribe to itself if it would not render itself odious: —

'I have insisted, in the beginning of my lecture, on the great power of the ridiculous over the opinions of mankind; including in that term, wit, humour, and every other feeling which has laughter for its distinguishing characteristic.

'I know of no principle which it is of more importance to fix in the minds of young people, than that of the most determined resistance to the encroachments of ridicule. Give up to the world, and to the ridicule with which the world enforces its dominion, every

trifling question of manner and appearance: it is to toss courage and firmness to the winds to combat with the mass upon such subjects as these. But learn, from the earliest days, to inure your principles against the perils of ridicule: you can no more exercise your reason if you live in the constant dread of laughter, than you can enjoy your life if you are in the constant terror of death. If you think it right to differ from the times, and to make a stand for any valuable point of morals, do it, however rustic, however antiquated, however pedantic it may appear;—do it, not for insolence, but *seriously* and *grandly*,—as a man who wore a soul of his own in his bosom, and did not wait till it was breathed into him by the breath of fashion. Let men call you mean, if you know you are just; hypocritical, if you are honestly religious; pusillanimous, if you feel that you are firm; resistance soon converts unprincipled wit into sincere respect; and no after time can tear from you those feelings which every man carries within him who has made a noble and successful exertion in a virtuous cause.' . . . (P. 134.)

'. . . It is beautiful to observe the boundaries which nature has affixed to the ridiculous, and to notice how soon it is swallowed up by the more illustrious feelings of our minds. Where is the heart so hard that could bear to see the awkward resources and contrivances of the poor turned into ridicule? Who could laugh at the fractured, ruined body of a soldier? Who is so wicked as to amuse himself with the infirmities of extreme old age? or to find subject for humour in the weakness of a perishing, dissolving body? Who is there that does not feel himself disposed to overlook the little peculiarities of the truly great and wise, and to throw a veil over that ridicule which they have redeemed by the magnitude of their talents, and the splendour of their virtues? Who ever thinks of turning into ridicule our great and ardent hope of a world to come? Whenever the man of humour meddles with these things, he is astonished to find that, in all the great feelings of their nature, the mass of mankind always think and act aright; that they are ready enough to laugh,—but that they are quite as ready to drive away, with indignation and contempt, the light fool who comes with the feather of wit to crumble the bulwarks of truth, and to beat down the Temples of God!' (P. 139.)

The judicious and moderate estimate he forms of the value of this intellectual endowment has already been referred to as a signal proof of the equilibrium of our author's judgment, naturally disposed, as he must have been, to regard with favour a quality which he himself so highly possessed. It is thus he speaks of it:—

'I wish, after all I have said about wit and humour, I could satisfy myself of their good effects upon the character and disposition; but I am convinced the probable tendency of both is to corrupt the understanding and the heart. I am not speaking of wit where it is kept down by more serious qualities of mind, and thrown into the background of the picture; but where it stands out boldly and emphatically, and is evidently the master quality in any particular mind.

Professed wits, though they are generally courted for the amusement they afford, are seldom respected for the qualities they possess. The habit of seeing things in a witty point of view increases, and makes incursions, from its own proper regions, upon principles and opinions which are ever held sacred by the wise and good. . . . (P. 150.) . . . So far the world, in judging of wit where it has swallowed up all other qualities, judge aright; but I doubt if they are sufficiently indulgent to this faculty where it exists in a lesser degree, and as one out of many other ingredients of the understanding. There is an association in men's minds between dulness and wisdom, amusement and folly, which has a very powerful influence in decision upon character, and is not overcome without considerable difficulty. The reason is, that the *outward* signs of a dull man and a wise man are the same, and so are the outward signs of a frivolous man and a witty man; and we are not to expect that the majority will be disposed to look to much *more* than the outward sign. I believe the fact to be, that wit is very seldom the *only* eminent quality which resides in the mind of any man: it is commonly accompanied by many other talents of every description, and ought to be considered as a strong evidence of a fertile and superior understanding. . . . I have talked of the *danger* of wit: I do not mean by that to enter into common-place declamation against faculties because they *are* dangerous. Wit is dangerous, eloquence is dangerous, a talent for observation is dangerous, *every* thing is dangerous that has efficacy and vigour for its characteristics; nothing is safe but mediocrity. . . . But when wit is combined with sense and information,—when it is softened by benevolence, and restrained by strong principle,—when it is in the hands of a man who can use it and despise it; who can be witty, and something much *better* than witty; who loves honour, justice, decency, good nature, morality, and religion ten thousand times better than wit,—wit is *then* a beautiful and delightful part of our nature.' (P. 151.)

Our author dismisses 'puns,' 'charades,' and the other diminutive forms of wit, with the following summary expression of his contempt:—

'I have very little to say about puns; they are in very bad repute, and so they *ought* to be. The wit of language is so miserably inferior to the wit of ideas, that it is very deservedly driven out of good company. Sometimes, indeed, a pun makes its appearance which seems, for a moment, to redeem its species; but we must not be deceived by them: it is a radically bad race of wit. By unremitting persecution it has been at last got under, and driven into cloisters from whence it must never again be suffered to emerge into the light of the world. One invaluable blessing produced by the banishment of punning, is an immediate reduction of the number of wits. It is a wit of so low an order, and in which some sort of progress is so easily made, that the number of those endowed with the gift of wit would be nearly equal to those endowed with the gift of speech. The condition of putting together ideas, in order to be witty, operates much in the

same salutary manner as the condition of finding rhymes in poetry; —it reduces the number of performers to those who have vigour enough to overcome incipient difficulties, and makes a sort of provision that that which need not be done at all should be done well whenever it *is* done. For we may observe, that mankind are always more fastidious about that which is pleasing than they are about that which is useful. A common-place piece of morality is much more easily pardoned than a common-place piece of poetry or of wit; because it is absolutely necessary for the well-being of society that the rules of morality should be frequently repeated and enforced; and though, in any individual instance, the thing may be badly done, the sacred necessity of the practice itself atones, in some degree, for the individual failure: but, as there is no absolute necessity that men should be either wits or poets, we are less inclined to tolerate their mediocrity in superfluities. If a man has ordinary chairs and tables, no one notices it; but if he sticks vulgar, gaudy pictures on his walls, which he need not have at all, every one laughs at him for his folly.' . . . (P. 131.)

'I shall say nothing of charades, and such sort of unpardonable trumpery. If charades are made at all, they should be made without benefit of clergy;—the offender should instantly be hurried off to execution, and be cut off in the middle of his dulness, without being allowed to explain to the executioner why his first is like his second, or what is the resemblance between his fourth and his ninth.' (P. 143.)

The following observations on the degree in which wit is susceptible of *culture* are curious and just:—

'It is imagined that wit is a sort of inexplicable visitation; that it comes and goes with the rapidity of lightning; and that it is quite as unattainable as beauty or just proportion. I am so much of a contrary way of thinking, that I am convinced a man might sit down as systematically and as successfully to the study of wit, as he might to the study of mathematics; and I would answer for it that, by giving up only six hours a day to being witty, he should come on prodigiously before midsummer, so that his friends should hardly know him again. For what is there to hinder the mind from gradually acquiring a habit of attending to the lighter relations of ideas in which wit consists? Punning grows upon every body; and punning is the wit of words. I do not mean to say that it is so easy to acquire a habit of discovering new relations in *ideas* as in *words;* but the difficulty is not so much greater as to render it insuperable to habit.' (P. 129.)

Our author's prelections on Beauty are eminently 'beautiful,' but we cannot say that he appears quite consistent in his theory respecting it. We need not remind our readers what a 'questio 'vexata' this has ever been in metaphysical criticism. Like her in whom Beauty was so pre-eminently embodied, Beauty itself has been the source of 'dire contentions' between our

critical Greeks and Trojans. From the day when Plato treated it in the 'Hippias Major' down to very recent times, men were as much and ludicrously in doubt about the nature and cause of what all were so familiar with, as about the theory of any facts whatever.

In general, our author accedes to the theory adopted with different modifications by most modern metaphysicians;—that the beautiful is to be sought, not in some quality or qualities of external nature itself, but in the *mind*,—in pleasurable associations; that these may be of infinitely various kinds, and exist in all sorts of proportions; and that the emotion of the beautiful will depend for its intensity on the number, duration, individual force, and concurrent influence of these harmonising elements.

This doctrine, we say, (in the main that of Alison,) our author accepts; yet, it must be confessed, he does not very consistently adhere to it. For though he has defined Beauty to be 'a feeling of the mind,' (p. 173.) he on the next page (p. 174.) speaks of Beauty as 'a quality of matter,' and even deviates into the absolute heresy, that there are many objects which have beauty in themselves, and immediately affect the mind with it.

If by this last expression he only meant (and we half suspect that he did only mean, or *would* only have meant had he paused to adjust fully his own conceptions) that there are, as Lord Jeffrey says in his admirable critique on Alison*, many cases in which the emotion of the beautiful springs up at once in the presence of certain objects, and does not wait to be slowly deposited as the product of those long trains of associations to which Alison attributes it, few would have objected to the expression; rather, most would have accepted it as a valuable correction.

Further, if he had merely meant, that the sensational and organic delight with which so many external objects, and their combinations, impress us, forms an immediate and appreciable element in the associations which determine the emotion of beauty,—however inferior in power may be the associations which are

* Art. *Beauty, Encyc. Brit.* This exquisite piece of criticism (an expansion of an article in an early number of this Journal) is well worthy of separate publication. On our once expressing to Lord Jeffrey a wish to see it in such a form, he said that he could have no objection, if the proprietors of the Encyclopædia had none. As so many of the contributions to that great work have been given to the public in a separate form, it may be hoped that this also will at length be added to the number.

so founded on them, to other and higher associations dependent on intellectual and moral causes,—few, when their attention was fairly called to the fact, would have been disposed to disagree with him. It is a point, however, which has been too much overlooked. Perhaps, even Lord Jeffrey's critique has hardly given sufficient prominence to it. Had it been duly borne in mind, it would have removed that apparent paradox which seems to postpone the emotion of beauty (not merely higher degrees of it, but the emotion itself,) to a long, tardy, and intricate compilation of associations. There seems something more peculiar still in the special case of an ear for music. But, surely it is not difficult to suppose that the delightful sensations with which the eye and the ear, and all the senses, are regaled amidst woodland scenery on a fine spring day—the mellow tints—the golden broken light—the variety of light and shade—the pleasing effects of the play of both under the waving foliage in the green forest glade—the whispering of the winds in the trees—the warbling of birds in the branches—the bright colours and fragrant scent of flowers—constitute a very positive item in the sum of associations on which the emotion of beauty is founded, and instantaneously lead to that emotion, however capable it may be (as we see it is) of being indefinitely intensified in relation to particular localities, by repetition of the pleasure, by all the bonds of remembrance with such scenes, by all the social pleasures with which such scenes may be enriched,—by all, in a word, which a cultivated and happy mind can bring to bear upon it.

But, alas! for the consistency of metaphysicians. Our lecturer certainly *says* something much more questionable, even if he would not on maturer thoughts have adhered to it. He expressly says that the eye has *beauty* for its object (at least in many cases) just as the organ of smell has fragrance for *its* object;—not merely that the eye and the ear have their appropriated *sensations* of delight from colours and sounds, as the nose from scents and the palate from flavour; but that the emotion of beauty, (undoubtedly in many cases the instantaneous *reflex* of delighted sensation, though purely mental in itself,) is the direct object of the eye. He says, 'It seems 'strange to me, that men should doubt any more of the glut-'tony of the *eye*, than of the gluttony of the mouth. As the 'palate feasts upon the savoury and sweet, the ear feasts upon 'melody, and the eye gorges upon light and colour, till it 'aches with pleasure.' He contends, in opposition to Alison and Jeffrey, that matter is capable of immediately exciting *emotion;* and seems to think that he has proved this in proving,

what none deny, that it is capable of exciting agreeable or disagreeable sensations. This is of course true, and hence the approximate uniformity of men's notions of beauty; because external nature, affecting them in the same manner, will necessarily lead, for the most part, to the same associations, and therefore to a similar conception of the beautiful. But the difference of the degree of this emotion, in relation to the same objects, in different men,—the absence of it in many, in relation to certain objects which inspire others with rapture,—the power of investing with beauty objects once indifferent, or even disagreeable,—the fluctuation of the standard of taste in different ages and nations,—even, in some cases, the transfer of the emotion to opposite objects in the history of the same individual, all show that association, and not sensation, is the key to its explanation. This theory, and this alone, accounts both for the approximate uniformity, and the limited diversities of taste in mankind at large.

But whatever he means, or does not mean, it is impossible, here or elsewhere, to withhold our admiration of the manner in which the author has illustrated and adorned his theme, and of the many original and beautiful reflections which are interspersed amidst some rather questionable speculations.

We have left ourselves no space for extracts from the Lectures on the Beautiful; but we cannot help extracting the following brief paragraphs on the effect of custom and proportion in modifying our idea of beauty:—

'But in order to show the effect of custom upon the beautiful, take a chin, which is of no use at all. A chin ending in a very sharp angle, would be perfect deformity. A man whose chin terminated in a point, would be under the immediate necessity of retiring to America; he would be a perfect horror; and for no other reason that I can possibly see, but that Nature has shown no intention of making such a chin,—we have never been accustomed to see such chins. Nature, we are quite certain, did not intend that the chin should be brought to a perfect angle, nor that it should be perfectly circular, and therefore either of these extremes is a deformity. Now, something considerably removed from the perfect circle and the perfect angle, is the chin we have been most accustomed to see, and which, for that reason, we most approve of.' (P. 187.)

'Mr. Burke contends, and in my humble opinion with great success, that proportion is never of *itself* the original cause of beauty. It is the cause of beauty, as it is an indication of strength and utility in buildings,—of swiftness in animals,—of any feeling morally beautiful; and it is agreeable, as it is customary, in animals, or the proof of the absence of deformity; but no proportion of itself, and without one of these reasons, ever pleases. No man would contend Nature ever intended that 6 to 2, or 9 to 14, are perfection; that the moment a

monkey could be discovered and brought to light, the length of whose ear was precisely the cube root of the length of his tail, that he ought to be set up as a model of perfect conformation to the whole simious tribe. Certain proportions are beautiful. as they indicate skill, swiftness, convenience, strength, or historical association; and then philosophers copy these proportions, and determine that they must be originally and abstractedly beautiful,—applying that to the sign, which is only true of the thing indicated by the sign.' (P. 190.)

Two of the best lectures in the volume are those entitled, 'Faculties of Animals and Men,' and 'Faculties of Beasts.' If one had picked up this portion of the manuscript by the road-side, one could have sworn to its authorship. How characteristic is the opening paragraph:—

'I confess I treat on this subject with some degree of apprehension and reluctance; because, I should be very sorry to do injustice to the poor brutes, who have no professors to revenge their cause by lecturing on *our* faculties; and at the same time I know there is a very strong anthropical party, who view all eulogiums on the brute creation with a very considerable degree of suspicion; and look upon every compliment which is paid to the ape, as high treason to the dignity of man.

'There may, perhaps, be more of rashness and ill-fated security in my opinion, than of magnanimity or liberality; but I confess I feel myself so much at my ease about the superiority of mankind,—I have such a marked and decided contempt for the understanding of every baboon I have yet seen,—I feel so sure that the blue ape without a tail will never rival us in poetry, painting, and music,—that I see no reason whatever why justice may not be done to the few fragments of soul, and tatters of understanding, which they may really possess. I have sometimes, perhaps, felt a little uneasy at Exeter 'Change, from contrasting the monkeys with the 'prentice boys who are teazing them; but a few pages of Locke, or a few lines of Milton, have always restored me to tranquillity, and convinced me that the superiority of man had nothing to fear.' (P. 238.)

In an enumeration of the causes of man's superiority to the lower animals there occur the following singular yet apposite illustrations:—

'His gregarious nature is another cause of man's superiority over all other animals. A lion lies under a hole in a rock; and if any other lion happens to pass by, they fight. Now, whoever gets a habit of lying under a hole in a rock, and fighting with every gentleman who passes near him, cannot possibly make any progress. Every man's understanding and acquirements, how great and extensive soever they may appear, are made up from the contributions of his friends and companions.' . . . .

'If lions would consort together, and growl out the observations they have made, about killing sheep and shepherds, the most likely places for catching a calf grazing, and so forth, they could not fail to

improve; because they would be actuated by such a wide range of observation, and operating by the joint force of so many minds. . . . . A third method in which man gains the dominion over other animals, is, by the structure of his body, and the mechanism of his hands. Suppose, with all our understanding, it had pleased Providence to make us like lobsters, or to imprison us in shells like cray-fish, I very much question if the monkeys would not have converted us into sauce; nor can I conceive any possible method by which such a fate could have been averted. Suppose man, with the same faculties, the same body, and the hands and feet of an ox,—what then would have been his fate?' (Pp. 267, 268.)

'The fact seems to be, that though almost every quality of mind we possess, can be traced in some trifling degree in brutes; yet *that* degree, compared with the extent in which the same quality is observable in man, is very low and inconsiderable. For instance, we cannot say that animals are devoid of curiosity, but they have a very slight degree of curiosity: they imitate, but they imitate very slightly in comparison with men; they cannot imitate anything very difficult; and many of them hardly imitate at all: they abstract, but they cannot make such compound abstractions as men do; they have no such compounded abstractions as city, prudence, fortitude, parliament, and justice: they reason, but their reasonings are very short, and very obvious: they invent, but their inventions are extremely easy, and not above the reach of a human idiot. The story I quoted from Bailly, about the ape and the walnuts, is one of the most extraordinary I ever read; but what a wretched limit of intellect does it imply, to be cited as an instance of extraordinary sagacity!' (P. 270.)

The whole of this interesting subject is treated with great power. Instinct—its nature and limits—its resemblances and dissimilarities to reason—the 'vain philosophies' which would exalt brutes to men or degrade men to brutes, or degrade brutes below themselves—even into mere machines,—are discussed in the spirit of true philosophy, and with the vivacity of genuine wit. Maintaining the just prerogatives of the 'sovereign of 'this lower world,' our author yet defends the claims of the subject brutes with an impartiality which may make the 'lion' cease to regret that his race have no 'painters.'

In conclusion; though some may probably deem that this volume contains too much merriment for so grave a theme, and that philosophy is here masquerading it a little too lightly for her character,—the fault, if fault it be, may well be pardoned. It is rarely indeed that metaphysics have so transgressed. For one vessel (laden with a similar cargo) that rides too high in the water for want of ballast, there are a hundred whose weight sinks them to the water's edge, and thousands whose too ponderous freight has sent them to the bottom, before they were fairly afloat. It is, in our judgment, a recommendation of these

lectures that they may induce some to read about Mental Philosophy who would otherwise have never read about it at all. He who cannot bear philosophy except in conjunction with a congenial gravity can find plenty of works to his mind.

ART. III.—1. *First and Second Reports of the Commissioners for enquiring into the State of Large Towns and Populous Districts.* London: 1844 and 1845.

2. *First, Second, and Third Reports of the Metropolitan Sanitary Commission.* London: 1847 and 1848.

3. *Historical and Statistical Account of the Present System of supplying the Metropolis with Water.* By JOSEPH FLETCHER, Esq. Journal of the Statistical Society of London. June, 1845.

4. *Supply of Water to London from the River Thames at Henley.* London: 1849.

OLD STOW has preserved a tract written in the reign of Henry II., by Fitz-Stephen, Thomas a Beckett's secretary, in which he gives an account of London at that time, and thus affords us the means of comparing ourselves with our ancestors. As a point worthy of notice, he records that 'the only plagues of 'London are immoderate drinking of idle fellows, and often fires.' This statement we fear is as true now as it was then. He further asserts, with a gallantry worthy of his Norman blood, that the city dames were very Sabines in chastity; 'Urbis matronæ 'ipsæ Sabinæ sunt.' Though not Normans, and speaking from our own limited personal knowledge, we will be bold to declare that this statement also is as true now as it was then. But when he goes on to say 'there are also about London, on the 'north of the suburbs, choice fountains of water, sweet, whole-'some, and clear, streaming forth among the glistening pebble 'stones,' our hearts fail us, and we have no courage to pursue the comparison any farther. It may, however, not be altogether useless, if we place before our readers a sketch of the actual condition of London in respect of its supply of water, tracing the measures which have brought it into its present difficulty, and indicating the direction in which the remedy lies.

In the time of the Conqueror, says Stow, 'This city of Lon-'don was watered (besides the famous river of Thames on the 'south part) with the River of Wells, as it was then called, on 'the west—with a water called Wallbrook running through the 'midst of the city, severing the heart thereof.' Then they had

Holy Well, Clement's Well, and Clerke's Well*, besides the 'Horse poole' in Smithfield 'sometime a great water,' and another near the parish church of St. Giles's without Cripplegate. Langbourne Water was a 'great stream' breaking out of the ground in Fenchurch Street, and running down Lombard Street to the Thames. There were also private wells; 'and 'after this manner was the city then served with sweet and fresh 'water.'

But in process of time, 'the number of citizens being mightily 'increased, they were forced to seek sweet water abroad;' and having turned their eyes to the remote district of Tyburn, one Gilbert Sanford, at the personal request of King Henry III., granted permission to the citizens to take water from thence in leaden pipes, for the supply of 'the great conduit in West 'Cheap builded in the year 1285.' In 1438, the Corporation, under the same pressure, went to Highbury; next year to the Abbot of Westminster's springs at Paddington, and even to Hackney and Islington. In the next century, about 1568, having exhausted all the supplies within their reach, they raised water by machinery from the Thames to a conduit on Dowgate hill. We recommend to the consideration of the Lord Mayor and Corporation of London the way in which their predecessors attended to the supply of water to the city.

'On the 18th September, 1562, the Lord Mayor (Harper), 'aldermen, and many worshipful persons, and divers of the 'masters and wardens of the twelve companies, rid to the Con-'duit Heads for to see them, after the old custom; and afore 'dinner they hunted the hare, and killed her, and thence to 'dinner at the head of the Conduit. And after dinner they 'went to hunting the fox: there was a great cry for a mile, 'and at length the hounds killed him at the end of St. Giles's. 'Great hallowing at his death, and blowing of hornes; and 'thence the Lord Mayor, with all his company, rode through 'London to his place in Lombard Street.'

In 1582, Peter Morrice, a Dutchman, raised water by a wheel from the Thames at London Bridge, and conveyed it by

* St. Clement's Well was close to Clement's Inn. Clerke's Well, or Clerkenwell, was near Clerkenwell Church. The church was named from the well, and the well took its name from the parish clerks in London; 'who, of old time, were accustomed there yearly 'to assemble, and to play some large history of Holy Scripture.' In 1409 these much-enduring men played, at the Skinner's Well, a play which *lasted eight days:* and no wonder, for '*it was of matter from 'the Creation of the World!*' A large history, indeed.

small pipes to the houses—the greatest improvement in the distribution of water that had yet been made. In the beginning of the seventeenth century, the city of London formed the really creditable project of bringing water to London from the Chadwell and Amwell springs, twenty-one miles off in Hertfordshire. Their conceptions had however exceeded their energy, and the scheme would have failed, at all events for a time, but for the accidental union in one man of three conditions which command success. Sir Hugh Middleton, a citizen of London and a goldsmith (a trade in those days almost invariably connected with money dealing and financial operations), had been engaged in extensive mining transactions in Wales. In these occupations he had realised an immense fortune, and had acquired an unusual amount of practical engineering knowledge; to which qualifications he added the rarer one of invincible resolution. Wealth, skill, and determination form in combination a power which accomplishes apparent impossibilities. He offered singly to bear the burden which was too heavy for the city of London, and successfully achieved what he had so boldly undertaken. On the 29th of September, 1613, the New River flowed into the town. At first it appeared that the Corporation had made a good bargain: for thirty years the dividends were not more than 5*l.* per share; Sir Hugh, who had embarked his whole fortune in the scheme, sold his shares and died, comparatively speaking, a poor man. King Charles inherited from King James half the stock of the Company, and sold it for 500*l.* a year. But the practical monopoly of supplying a growing city with one of the primary necessities of life must sooner or later be profitable, and the dividends have gradually risen from 5*l.* to 617*l.* per share. Such are the results to an individual of undertaking a speculation offering a prospective rather than an immediate profit, and to a city of sacrificing the future to the present, and permitting the privilege of supplying its inhabitants with water to pass into the hands of a trading company.

The example set by the Corporation was gradually followed, and water companies appeared in the other districts. On the south of the Thames, the Southwark Company was established about the middle of the last century, the Lambeth Company in 1785, and the Vauxhall Company in 1805. On the north bank, the New River Company, the Chelsea Company (formed in 1703), and some smaller companies, supplied the whole of the town up to 1810; but then the East London, West Middlesex, and Grand Junction Companies sprang up; and, after a des-

perate competition, the larger companies absorbed the smaller, and partitioned out the metropolis among themselves.

One half of the population of London, who live to the east of a line drawn from Charing Cross, by Tottenham Court Road, to the Hampstead Road, are supplied from the small Chadwell spring in Hertfordshire, and from the river Lea, with water which, though unfiltered, has deposited much of its sediment in settling reservoirs. The rest of London is supplied from the Thames at various points between Waterloo Bridge and Kew Bridge at Brentford; the river being ponded back by the tide as far as Teddington Lock, nineteen miles above London Bridge, and the tide itself flowing back above the highest point whence any of the companies draw water. The West Middlesex and the Lambeth Companies give the unfiltered water of the Thames,—the others filter it more or less perfectly.

Of the two great uses of water, drinking and cleanliness, the latter is nearly as important as the former, and requires a vastly greater quantity: and as, in a town, whatever is to be removed from a house must also be carried beyond the limits of the town, the difficulty increases as the town increases. The expense of doing this by labour is so great, that, practically, in a large town, almost all that is not removed by some cheap process is not removed at all. The cheapest mode of removing matter is by suspending it in solution in a moving current; and it has been happily provided that the greater part of the refuse and filth of a town answers to the required condition, and may be mechanically suspended in water. No town, therefore, can be considered properly supplied with water unless the quality is wholesome, the quantity sufficient to sweep away all impurities beyond its utmost limit, and the mode of distribution such that no individual is left out; for though people will go to water to quench their thirst, water must be brought to them, or they will neglect cleanliness.

It is now our business to show how far these results have been obtained in London, where water has been for more than two centuries an article of trade. And, first, as to quality. The eastern half of London is supplied from the river Lea, with some assistance from the Chadwell spring. Passing over the objectionable character of the open channel of the New River, we would ask our readers to inspect, on any large map, the district of which the Lea receives the immediate drainage. It is one of the most populous in all England. The town of Tottenham alone contains 9000 inhabitants. It is the line of the great north road; and, for twenty miles, the chain of towns and villages is almost unbroken. The Lea was so palpably objec-

tionable, that it was only resorted to, out of necessity, when the Hertfordshire springs had failed. Moreover, it is becoming worse every day, from the rapid increase of the population on its banks; indeed, only one source of supply worse than itself could be found, and *that* has been selected by the other companies. The rest of London, as we have said, is supplied by them from the Thames within the tideway. The real meaning of such a statement is this. The refuse and dirt from two millions of individuals,—the enormous accumulation of waste and dead animal and vegetable matter,—the blood and offal of slaughter-houses,—the outpourings from gas-works, dye-works, breweries, distilleries, glue-works, bone-works, tanneries, chemical and other works,—and a thousand nameless pollutions,—all find their way into the Thames. The mixture is next washed backwards and forwards by the tide; and, having been thoroughly stirred up and finely comminuted by the unceasing splash of 298 steamboats, is then pumped up for the use of the wealthiest city in the world!

Twenty years ago, a Royal Commission reported that the Thames, when free from extraneous matter, may fairly be called pure; but, 'as it approaches the metropolis, it becomes loaded 'with a quantity of filth which renders it disgusting to the senses, 'and improper to be employed in the preparation of food.' They expressed, in gentle phrase, their opinion, that this water 'can-'not, even when clarified by filtration, be pronounced entirely 'free from the suspicion of general insalubrity.' We should think not, indeed; for filtration only removes the mechanical, leaving unaffected the mineral, vegetable, and animal impurities. They also thought that 'there were no grounds for 'assuming the probability of any improvement in the state of 'the water drawn from the London district;' more especially as it had been considerably deteriorated within the ten years previous. We heartily concur in this also; and, so far from dreaming of improvement, we conceive we have something very like a mathematical demonstration that what was bad then is abominable now, and will be intolerable ten years hence. It was said that fish had deserted the London waters; and that even Dutch eels, when placed in it, gave up their miserable lives. We believe this was an exaggeration; at least, when on a visit to a friend who has the happiness of residing in the dominions of the Grand Junction Company, we ourselves found a very lively shrimp in our water bottle. But when we read that there are 141 public sewers between London and Battersea bridges,—that Richmond, Isleworth, Brentford, Mortlake, Chiswick, and Hammersmith furnish 68 more,—and that the

whole of their contents are received into the Thames, and returned by the reflux of the tide,—we perceive a state of things which renders exaggeration truly superfluous.

Bad as this water is, it is made very much worse by an arrangement which is in operation all over London, and is the direct result of the principle of trade. To avoid what, in the language of the water companies, is called *wasting* water,—though it is a strange term for washing away filth,—the supply is *intermittent*, necessitating the use of cisterns. The rich use large leaden tanks; the rest of the inhabitants—that is, nine tenths of the whole population—use the best substitute they can afford to purchase, from a wine pipe holding 130 gallons, down to a butter tub which costs a shilling. All the water brought to London is full of organic matter, and, therefore, always ready to reproduce vegetable or animal life. Any one may convince himself of this by letting water stand in his water bottle for a few days, when he will find the bottom of the bottle beginning to show a covering of vegetation. Generally, however, this experiment is carried on in the tank, out of sight. The process of vegetation is invariably accompanied by the breeding of insects. Professor Clark says, that animalcules abound in the waters of all the London companies. Once, out of curiosity, he counted the number of insects visible to the naked eye in a gallon, and found them to be 450. The real number was, he says, of course much greater. The specimen did not strike an eye accustomed to the London waters as at all unusual; and the Professor, prudently enough, 'made no ob-'servations as to the smaller creatures visible only by the micro-'scope.' But if such is the condition of water taken from the cistern of a gentleman's house, what is likely to be that from the half-rotten, dirty, uncovered butts and tubs of the poorer classes,—carpeted with a layer of soot, dust, and dirt,—into which insects scramble, and at the bottom of which swallows, young birds, rats, and cats are not unfrequently found?

But whatever may be the evils arising from impurity in the quality, those caused by a deficiency in quantity, and an intermittent distribution, are infinitely more deplorable. We are not now speaking of the houses of the rich, where, by large tanks and scientific appliances, much that is offensive to the senses may be removed; but of the houses where the millions live,—men whose wages vary from twelve to eighteen shillings a week, and whose lot chains them to particular localities. The first cost of laying pipes to inferior tenements is something: the water company, true to the commercial principle, throws the burden and risk on the landlord; the landlord, who lives in a

good house elsewhere, throws it on the tenant; the tenant, being only a tenant, of course refuses to expend money for the benefit of the landlord, and water is not laid on. Closets require cisterns raised six feet from the ground; but these then become subject to an extra charge for 'high service,' and so the whole apparatus is dispensed with. Though without a system of drains a large supply of water is rather injurious than otherwise, yet without a plentiful supply there can be no drainage at all; and therefore, when water is not brought to these houses, refuse of all descriptions remains unremoved, accumulating in and around the houses, in the courts, in back yards, in cellars, and in cesspools. The most vivid imagination cannot adequately conceive the consequences of this; and if we were to transcribe the evidence which has been collected upon this branch of the subject, our readers would turn from the page with loathing. Little do the rich know of the state of their poorer neighbours, or of the masses of filth and misery from which they are separated only by a party wall. Behind some of the best streets in London scenes may be witnessed at which humanity shudders.

In populous districts it is common for eighteen or twenty houses to be built round a court: at one end is a water-cock, the water being turned on three times a week, and sometimes for half an hour on Sundays also. Those who can then attend fill a bucket or butter tub, and carry it to their rooms; those who, from any cause, cannot attend at the proper moment, go without water for the next two days.

Sometimes the cock is out of order, or the landlord has fallen into arrear with the water rent and the supply been in consequence cut off, and twenty families are deprived of all means of cleanliness. The husbands being away at their work, the wives must fetch the water, and they are often physically unable to carry it up stairs; — thence comes *economy* of water; and what that implies Dr. Toynbee tells us. Water, already filthy from having been used to wash clothes, is used over and over again for the same purpose: children are left dirty, greens are put into the pot without being washed, and the smallest possible quantity is used in cooking. Having to attend three children ill with scrofulous affections of the eyes and throat, he found them all rarely washed and in an extremely filthy condition, because the mother, once in respectable circumstances, was so far advanced in pregnancy as to be unable to go up and down stairs. Often, after dressing a patient, he could get no water in the room, sometimes not in the house. What were called clean towels were so offensive from having been washed in dirty water as to be unfit for use. He continually visited houses where the smell

was unbearable, but the windows were never opened on account of the still more pestilential effluvium without. Within a district supplied by the New River Company, in the court and yards outside the houses was a mass of putrid, fermenting filth, and the subsoil was saturated with offensive matter till it could take up no more. In such a locality, the houses, the inmates, and everything around them became unavoidably 'horribly filthy.'

There is a most fatal and certain connexion between physical uncleanliness and moral pollution: the condition of a population becomes invariably assimilated to that of their habitations. There can be no sight more painful than that of a healthy, rosy, active countrywoman brought to one of these dwellings. For a time there is a desperate exertion to keep the place clean; several times in the forenoon is the pavement in the front of the house washed, but as often does the oozing filth creep along the stones, and she feels at length that her labour is in vain. The noxious exhalations infuse their poison into her system, and her energies droop. Then she becomes sick, or the supply has been cut off, or she has missed her turn, or her little store of water has been upset or stolen, and, cleanliness becoming impossible, she gets accustomed to its absence, and gradually sinks into the ways of her neighbours. The art of concealing dirt is substituted for the habit of cleanliness; she becomes a dirty, debilitated slattern, followed by sickly, scrofulous, feverish children; and she falls through successive stages of degradation, till, physical wretchedness having done its worst, she reaches the lowest of all, that in which she has ceased to complain. The fate of the children is, if possible, more heart-breaking. All idea of sobriety, all notion of self-respect, all sense of modesty, all instinct of decency is nipped in the bud: they congregate in masses, and mix with the worst vagrants. At last some dreadful fever forces on the notice of the public the existence of their squalid dens of misery; such as those in the Saffron Hill district, — where twenty-five people were found living in a room sixteen feet square,—where a man and his wife and four children, occupying one room, took in seven lodgers,—and where one house contained a hundred and twenty-six people, and only six or seven beds. These people save nothing, but invariably spend all they earn in drink; and with that precocious depravity too surely evinced by human beings when herded together like beasts, the young of both sexes live together from the ages of twelve and thirteen years.

It is right that these things should be made known — it is well that they should be considered. We have commission after commission to inquire — we have one pestilence after

another to warn us that the destroying angel is at hand: we wait for twenty years, weighing in a balance the interests of water companies, the contingent losses of millers, the hardness of water from a well, and the impurity of water from the river; and in the meantime tens of thousands of our citizens are dragged down morally and socially by all manner of filth and wretchedness, and hurried through a degraded and miserable existence to an untimely end. While our discussions go on, they are dropping into their graves. The worst water in the Thames would be an unspeakable blessing to the denizens of Red Lion Court. We fill our gaols with felons, and we have City Missions, and put our trust in education; but the influences of filth are stronger than the policeman, the schoolmaster, and the preacher; and we ought, by this time, to have learned that the very foundation of moral training in a London tenement is a pipe of wholesome water from the top to the bottom of the house.

But then the cost of an altered system! Few will ask that question who have steadily contemplated the cost of the present system. We would entreat our readers just to glance at the evidence of Dr. Southwood Smith, physician to the London Fever Hospital, and of Mr. Toynbee, surgeon of the St. George's and St. James's Dispensary, and visitor for the Westminster General Dispensary.

Fever is beyond all comparison the disease of adult life, and, more than any other, depends upon causes within our own control: at least those forms of it, which arise from the decomposition of animal and vegetable matter. A short period is mercifully given to us before putrefaction begins, within which we may remove the evil; but when that period has expired, poisonous gases are generated, and the seed of fever sown. In many places in London, on account of the want of water and proper drains, this removal is not at all, and in others very tardily, effected: we have therefore localities from which fever is never absent,—these are the centres whence sickness is always emanating,—the ever-burning matches by which the flames of disease are re-lighted. And the social and moral evils of fever, its pauperising effects, and prodigious expense, whether in a public or private view, are not easily described: for much as we are alarmed by cholera, the returns show that in any one year fever kills as many as cholera.

The rate of mortality in the east of London is double that in the west. To persons accustomed to the study of medical statistics, this simple statement would be sufficient; they would at once see the depth of misery which it indicates. But to others we must place it in a more familiar light. Out of every

two persons who die in the east of London, one perishes from preventible causes. From twenty to thirty thousand of the labouring population of London are killed every year by causes which, if we chose, we might expel by a current of water. Though we do not take these persons out of their houses and murder them, we do the same thing in effect,—we neglect them in their poisonous homes, and leave them there to a lingering but a certain death.

The peculiar evil of fever is, that it seizes upon the labouring classes especially, and at the most valuable period of their existence. Those attacked between the ages of 20 and 30 years are equal in number to those attacked at all other ages put together. At that time of life the working classes are generally married, and have children to support; so that not only heads of families are most liable to this malady, but are most liable at that precise period of life when they have a young family entirely dependent upon their exertions. Females, too, seem to be more susceptible of this disease, perhaps are more constantly exposed to its causes, than males; and when smitten by it, they can neither nurse their children, nor attend to any one of those duties, which unless a working man's wife personally discharges, the house becomes a scene of disorder and distress.

The indirect effects of sickness are, moreover, far more hurtful, though less observable, than the direct effects of mortal disease. Those who merely suffer from fever are about twelve times as many as those who perish. The poison arising from animal or vegetable decomposition acts as a sedative; it lowers the tone, unstrings the nerves, and brings on physical languor and mental apathy. Persons affected by it become unfit for, and have a hatred of, labour. There is no expedient they will not seek in order to escape from toil. Under this depression, and as a relief from a peculiar inward *sinking* feeling, they have a craving for the stimulus of ardent spirits to an extent inconceivable by persons in happier circumstances; it amounts to a passion, and these debilitated beings are unable to control it. The same poison, by deranging and weakening the digestive organs, produces complaints of a scrofulous and consumptive character, generally accompanied by a feverish and nervous irritability, constantly urging them to the unrestrained gratification of their appetites; and so the process of degradation goes forward. The effort to struggle against the surrounding mass of filth and wretchedness, is given up in sheer hopelessness, and the man's best energies are sapped by the irresistible poison, even while he is endeavouring to resist its influence. The class of workmen that in other places drink nothing but water, in London drink anything but water, so bad is it. The labourer comes

home tired, and is glad to escape from the dirt and discomfort—the poisonous atmosphere of his home—to a pothouse. In the morning there is no water to make him a cup of coffee,—again he is driven to the beer-shop; overpowered by the internal craving and external temptations, he inevitably becomes a drunkard, and, in time, unequal to hard work. Soon the comforts of life are gone; then its decencies are neglected; the moral feelings, one after the other, are broken down before the most sordid appetites, alike ungovernable and insatiable: he is crushed by drunkenness, profligacy, and poverty, and sinks from one stage of vice and misery to another, till the intellectual faculties become dimmed, all moral and religious feeling expires, the domestic affections are destroyed, all regard for law or property is lost, and hope is quenched in desperate wretchedness: so that at last, owing to these withering causes, families have been found, even in London, huddling together like animals, the very instincts of humanity obliterated, and, like the brutes, relieving every want, and gratifying every passion in the full view of the community.

These are the reasons why the districts of filth are not only the districts of fever, scrofula, consumption, and cholera, but also of crime. Habits are early formed of idleness and dishonesty—of brutality, inexpressible profligacy, and sensual indulgence; and here are educated those irreclaimable malefactors, the constitution of whose minds is a constant grief and, indeed, enigma. Their wickedness we are prepared for, but we are not prepared for their callous insensibility to all the ordinary motives which influence human beings, for their unaccountable and uncontrollable irritability, for their recklessness akin to that of a wild beast, and for that distorted intellectual acuteness resembling more the dull cunning of a madman than the reason of a man.

The numerous deaths of an unhealthy district have a bad moral effect. They harden the heart. The expense, trouble, and anxiety arising from a sickly family often make the wretched parents regard their offspring as a burden, and their death as a happy release from a miserable existence. But it is not with impunity that the natural affections are destroyed. The transition from this state of mind to that which looks upon children's burial clubs as a source of profit, is too often found an easy one.

It has been said that an excessive rate of mortality is one of the appointed means by which evils work out their own cure, and an over-numerous population is thinned. With a Christian philanthropist this argument, even if true, would have no weight. But it is more to our present purpose to remark that it has no foundation in fact. An extreme mortality, caused by the mor-

bific influences arising from the want of cleanliness, has hardly any effect in decreasing the numbers of the population; it only renders them weak and wretched. The worse their condition, the earlier they marry. These influences do not diminish fecundity; there is reason to suspect they increase it: and it is beyond a doubt that the greater the mortality among children, the more numerous are the births. Grown-up men and women are replaced by the more youthful; and this rapid substitution of the young and helpless for adults is doubly injurious: it diminishes the productive power of the country, while it accelerates the increase of the population. It entails a frightful expenditure, besides being a social calamity, and, as far as it is preventible, a national sin.

The expense of doctors' bills to the poor is far greater than is supposed. Many a workman receiving 20*s.* a-week pays, not only proportionably, but actually, more for medicine than a gentleman with 1000*l.* a-year. The cases of families brought on the parish by preventible sickness are innumerable. The sickness of a scrofulous child will cost from 4*l.* to 10*l.*; its burial 2*l.* to 4*l.* A confinement costs 4*l.* or 5*l.*; and numerous as these are, the miscarriages are still more numerous. We had selected, but are compelled to omit, the detailed cases of individuals who, though receiving regular wages of 20*s.* and 25*s.* a-week, became utter paupers solely from the expense of confinements, miscarriages, medicines, and undertakers' bills. Dr. Toynbee visited one hundred families, and found 212 of the members actually suffering from disease; there had been 251 deaths and funerals, and a corresponding amount of sickness; 350 members of these 100 families were dependent children, whose average age was little more than ten years. It is terrible to contemplate the amount of social misery caused, and the expense entailed upon the public, by the removal of *heads* of families from such a community as this. A little saving in sickness would pay a heavy water-rate. The comparison is not the less certain because the actual result cannot be stated in figures. Sickness and pauperism are inseparable, and the parish, in the long run, must pay for the sick labourer's rent, food, clothing, for medical attendance on him during his life, for his funeral at his death, and for the support of his wife and family after he is dead. To give some idea of the money cost of our present system, by which the preventible disease of fever is perpetuated, we may mention that the *extra* expense from *fever cases* in the Bethnal Green and Whitechapel Unions was at the rate of 2467*l.* a year. In 1843 the London Fever Hospital received 500 fever cases in four months, and, during a considerable

portion of the time, thirty or forty applications a-day were refused, from want of room. When an inquiry was made by twenty metropolitan unions to ascertain what proportion of those receiving parochial relief were suffering from fever, it was found in the district of St. George's, Southwark, that out of 1467 persons receiving parochial relief, 1276 were ill with fever. After the cholera appeared last summer, Peahen Court, a little court off Bishopsgate Street, had sent to the parish of St. Ethelburga by the 29th of August, one cholera widow and twelve cholera orphans. It was calculated that they would cost the parish 420*l.*, and that the court might have been put in order, and probably all sickness prevented, for 30*l.* But, not to weary our readers, we will only refer to the official statement of the proportion of deaths from cholera in the thirteen weeks ending the 15th Sept. 1849. Since Cholera is in truth a health inspector, who speaks through his interpreter, the Registrar-General, in a language which reaches all ears, and points out with terrible distinctness and unfailing accuracy those districts which are not only occasionally the regions of death, but at all times the nurseries of disease.

Parishes.		Proportion of Deaths from Cholera to every 10,000 of the Population.
Country District -	Hampstead - - -	8
London north of the Thames:	St. James's, Westminster -	12
	Marylebone - - -	15
	Holborn - - - -	28
	Shoreditch - - -	65
	Bethnal Green - - -	75
London south of the Thames:	Lambeth - - - -	97
	St. Saviour - - -	141
	St. George - - -	142
	St. Olave - - - -	151
	Bermondsey - - -	163
	Rotherhithe - - -	225

Now compare the extremes, Hampstead and Rotherhithe. At the latter, out of 225 persons, 217 have died from preventible causes; there are 28 times the number of deaths that there are at Hampstead, 28 times the cases of sickness, 28 times the number and cost of funerals, 28 times the doctors' bills, and 28 times as many widows and helpless children to be supported by somebody. We must also remember that this is not the

case of an epidemic scourging one locality and sparing another, but the index of what is going on at all times, and will continue to go on till the end of time, unless, by an abundant supply of water, we wash away the causes of those diseases which are silently but incessantly wasting away the health, the morals, and the wealth of the community.

Eminent physicians declare that the existing amount of sickness and mortality may be reduced one half; and to show that this is no vague exaggeration, we will quote the case of Windmill Court, in Rosemary Lane, described by Mr. Liddle, the medical officer of the Whitechapel union. It was dirty, undrained, and ill-supplied with water: he had to visit it two or three times a day for fever cases, and in seven months attended forty-one new cases of sickness in that one court. It was afterwards flagged, drained, and supplied with water; and Mr. Liddle tells the result. 'In the last four or five months I have 'had but two cases;' and the rents were so much better paid that the landlord was thought to have *profited* by the improvements, which he had executed at his own expense. A current of water had in fact swept away nineteen twentieths of the sickness. This is fullly corroborated by the experience of Harebrain Court, Cooper's Court, and other places. In Nottingham, in 1832, there were 1100 cases of cholera, of which 289 were fatal. After the disease had passed off, the town was supplied with water, and other sanitary measures adopted with such effect that when, in 1849, the cholera appeared a second time, there were only eight cases, of which six were fatal. And it appears that between the healthy and unhealthy districts of that town there is a difference of sixty per cent. in the average duration of human life. So that when we hear complaints of the quality of the water in London, and agree that it would be well to have a jet seventy feet high instead of the dumb waiters in Trafalgar Square, to have a magnificent fountain in the Temple, and cascades in the royal gardens, with abundance of water for cleansing the streets and extinguishing fires, we contend that,—although the water companies should accomplish all this to-morrow —the great and crying evil of the present system would, notwithstanding, be in no way lessened. It is not the convenience of the rich, but the necessities of the poor, that call upon us for instant legislation, under penalties so heavy and responsibilities so awful. The richer classes are in some degree able to protect themselves; but the masses, the millions who live by the sweat of their brow, these men are helpless. Whatever else we do, we do nothing, unless we give them plenty of water for the purposes of cleanliness. This is the main object; and we trust and believe that all

interests which stand as obstacles in the way will be made to bend or break. To those who watch with admiration, mingled with awe, the growth of the immense influence of the daily press, the course generally taken by it on sanitary and economical questions affecting the interests of the poor, is a source of unfeigned satisfaction and thankfulness, as well as a pledge of success. It is to the honour and safety of the nation, when journals like 'The Times' and 'Morning Chronicle,' and 'Daily 'News,' at once the exponents and guides of public opinion, in their several quarters, take up these questions, and advocate the cause of the poor with sound good sense and infinite perseverance, research, and talent.

It may be asked, is this object attainable? Is it *possible* to obtain anywhere a daily supply of sixty or a hundred millions of gallons of pure water? The answer involves a consideration of the topographical and geological position of London.

London is situated upon the lower tertiary or eocene formation; the upper stratum is a tenacious clay, the next is designated plastic clay, and is composed of argillaceous deposit and beds of sand; these rest upon the chalk, a formation from 300 to 500 feet in thickness, not lying horizontally, but rising up all round like the sides of a basin, and coming to the surface at the Surrey and Chiltern hills. The water which falls upon and percolates through the edges of the porous chalk, is arrested at the bottom of the basin by a layer of gault or impermeable clay, and accumulates there until the whole stratum becomes charged with water; and the rim of the chalk basin being higher than the strata which it contains, the water, whenever the opportunity is given by a sufficiently deep well or hole, has a tendency, from the hydrostatic pressure, to rise through the superincumbent beds to its natural level above the surface of the ground. The wells are of three classes: the first are shallow, and furnish an absolutely poisonous water, impregnated with the leakage from gas pipes, the soakage from cesspools, and the drainage from graveyards; the second reach the sandy water-bearing beds of the plastic clay, and generally produce water full of ferruginous and other impurities, and sometimes contaminated by the deep cesspools; the third class are sunk into the chalk, and supply clear and good, though hard, water.

It was once imagined that an inexhaustible supply might be obtained from the wells in the chalk; but that idea is now exploded,—or nearly so; we make the reservation out of respect to Mr. Tabberner,—the increased number of deep wells having already diminished the quantity in the subterraneous reservoir. Each new well lowers the level of the water in its neighbour: in

one brewer's well the water level has fallen ninety-three feet; Calvert & Co., and Barclay & Co., have restricted themselves to the use of their wells on alternate days; the Artesian wells at Brentford, at the Horticultural Gardens, and at the Bishop of London's gardens at Fulham, no longer overflow; the well constructed by the New River Company, near the New Road, is a failure; at the Pentonville Prison the average water-level has sunk twelve feet in seven years; and on the whole it seems that the water-level in the deep wells of London has been sinking for the last twenty-five years at the rate of two feet per annum. A project was started in 1840, and has been again revived, of obtaining a supply from wells in the chalk district near Watford; but the engineer at that time recommended farther inquiry, and the amount sought to be obtained is totally inadequate to the purposes now under consideration.

We are therefore compelled to turn our minds from water under the surface to the upper or river drainage—that is, to the Thames, or some of its affluents. Objections have been raised against river water, because every river receives a certain amount of urban and agricultural drainage. This is true; but we cannot go to 'the seven wells' at Cheltenham; and at every successive mile of its course the Thames receives some description of drainage. To supply London with perfectly pure water is, apparently, an impossibility. Purity then becomes a question of degree. The first requisite is a very large supply; the second, that it shall be as pure as circumstances will admit. We therefore reject the Lea and the Brent because they receive a very unusual amount of drainage; the Colne for the same reason and on account of its paper mills, which pollute water more than any other manufacture; the Wey on engineering grounds; the Wandle, Verulam, and similar minor tributaries, as being insufficient; and the Thames itself, below Maidenhead, because, emerging from the hills, it there enters into the rich basin of the London clay, and receives the drainage of the innumerable hamlets, villages, and towns which stud its banks. On the other hand the most fastidious have never sought to go beyond Oxford; and thus the discussion has practically been narrowed to one point—whether the supply should come from above or below Reading—from Mapledurham, or from Henley. Those who support the Mapledurham scheme do so on the ground that they avoid the drainage of Reading; the others argue that this objection may be removed, and, at all events, is more than compensated by the accession, below Mapledurham, of water from two tributaries, the Kennet and the Loddon, one fifty-three, the other twenty-four, miles long,—and both of very

unusual purity, in consequence of traversing thinly inhabited chalk districts, containing much down land, little cultivated, and chiefly appropriated to sheep farming. On the Kennet we believe there are only two or three mills by which the quality of the water can be affected. After heavy showers also, as there is little surface drainage in a chalk district, in which the rain sinks into the ground and is filtered before it breaks out in a stream, the Kennet remains almost as pure as before, while the Thames is *comparatively* turbid, having received a large amount of surface drainage from the Oxford clay. Whatever be the respective merits of these schemes, it cannot be denied that in this locality the Thames will afford a daily supply of 100,000,000 of gallons of water, sufficiently pure for all the ordinary purposes of life. Lucretius, in the passage beginning,

> 'pereunt imbres, ubi eos pater æther
> In gremium matris Terræ precipitavit:
> At nitidæ surgunt fruges, ramique virescunt
> Arboribus;'

describes, in his exquisite language, the showers perishing as they sink into the earth, and yet becoming the origin of the green foliage of the woods, and of the shining produce of the fields, the food of man and of beast. The rain that descends upon the Wiltshire downs may be made to minister to a higher end, if we compel it to rise again amidst the tenements of the London workmen, and contribute to their health, their happiness, and their morals.

It is of importance, also, to observe that in no direction can London be approached by an aqueduct so easily as from the direction of Maidenhead. The unexampled facilities afforded by the level valley of the Thames have been taken advantage of for the construction of canals and railways; and the promoters of the Henley on Thames project assert that, if an aqueduct was carried westward from Paddington, without aiming at any objects but cheapness of construction and a suitable inclination for the current of water, it would strike the Thames at Henley Reach. Whether this be the case or not, it is clearly desirable that the main reservoir of London should be as high as possible above the town, provided it be not higher than the average level of the ground along which the aqueduct is to pass, and that the water should flow into it by the force of gravitation alone, without requiring to be elevated by mechanical means, or checked in its current by locks. Should the main reservoir not command the whole of London, it will be cheaper to form an additional reservoir at the required height, and pump water

into it, than to bring in the whole quantity at the maximum elevation.

It cannot be disputed that, if we divert perhaps one third of the Thames at Reading in order to pour it through the sewers of London, we shall affect the corn and paper mills on the river. But this water power, once of great consequence, as being the only mechanical power in the vicinity of London, is yet subject to interruption from floods, frosts, and droughts, and is daily falling in value before the steadiness and certainty of steam power; and the cost of substituting steam for water power to every mill between London and Reading would not amount to any sum worth noticing. The preservation of the navigation is more serious. But whatever may be its importance, we do not hesitate to say that it sinks into insignificance before the other interests involved in this question. We are bound to look the difficulty in the face, and to carefully consider every suggestion, which holds out a prospect of removing it; but if no means can be found, perfectly adequate or perfectly unobjectionable, let us not shrink from a decision. On one side is our money, on the other our life; here is our commerce, there is our happiness. Is water given to us primarily to be a medium of traffic, or because it is a necessary of existence? Shall we use the railway and pay a shilling or two per ton extra, or shall we keep to the river and have an extra pestilence every fifteen years? Shall we empty our barges, or shall we fill our churchyards?

But the report of Messrs. Walker and Leach, the engineers of the Thames Navigation Committee, demonstrates that the difficulty is very far from insurmountable. The Thames, in that part of its course, flows in *reaches:* the depth of a river depends not alone upon the volume of water, but on the rapidity of the current, and the inclination of its surface; and the same skill which has carried canals over the most irregular and broken countries may, by locks and dams judiciously placed, not only maintain, but improve the navigation of the Thames, and that, too, without any inordinate expense.

The English, more than any nation of ancient or modern times, have adhered to the rule of carrying on their great undertakings upon the principle of trade, trusting to the boundless energy of private enterprise. Our lighthouses, our national bank, and our Indian empire, show the singular power and flexibility of this principle; but they also show the circumstances in which it fails, and by which the mere trading company is converted virtually into a department of the Government. Whenever a government has attempted to direct commercial enterprise and enter into a fair competition for its

rewards, it has failed. On the other hand, whenever competition has been destroyed, and a practical monopoly established, the quickening impulse of the commercial principle seems to die away, and, in one form or other, Government control takes its place. There can be no competition in lighting the seas; and, lighthouses having in fact ceased to be private speculations, the Trinity Board is virtually under the control of the Government. The Bank of England only retains its exclusive privileges because it acknowledges its duties to the public to be paramount even to the interests of its shareholders, and by a judicious deference to the wishes of the Executive. The trade with India has passed into private hands, and the empire which our merchants won is ruled by a responsible minister. Wherever the principle of trade fails or ends in a monopoly, or wherever the discharge of a public duty is superadded to and supersedes the pursuit of private profit, the English people will trust none but a responsible body. A tendency to combination, in order to extinguish competition, is inseparable from that class of enterprises in which the amount of receipts is measured by the requirements of a specific locality, and where a large capital is necessarily sunk irrecoverably in the first instance. Competition between coaches, where the primary outlay is but small, may arise and die, and arise again perpetually; but between water companies, gas companies, or railways, whatever turns the scale at all will turn the whole trade. So that the struggle is for life or death, and no sacrifice is too great to crush a rival utterly. The consequence is, as Mr. Stephenson tersely expressed it, where combination is possible, competition is impossible.

Water companies show as clearly as any other instance the truth of this maxim. There never was a fairer area or greater scope for competition than the city of London, — the largest, the most populous, the most luxurious, and the wealthiest city in the world, and familiarised, by the bent of the national mind, to the encouragement of joint enterprise. Up to the beginning of the present century there was no competition; but when the East London, the West Middlesex, and the Grand Junction Companies arose in 1810, so violent a struggle ensued, that in four years all the companies were on the verge of ruin. In 1815 and 1817 they coalesced and partitioned the metropolis north of the Thames among them: since that date there has been no competition whatsoever; and we are never likely to see it again. The companies south of the Thames were under certain restrictions until 1834; but when these were removed, a competition broke out, which raged in full force from 1839 to 1842, and then died its natural death by combination. This contest

stands pre-eminent in ruinous absurdity. There were in some streets three distinct sets of pipes, with separate sets of persons to attend to each. Capricious customers were constantly changing from one to the other, and the pavement was torn up daily. The plumber's bills for removing the pipes from one main to another were of course enormous. So sharp was the practice, that sometimes the pipes were put to the wrong main, and one company sent in the bill for water which its opponent had unconsciously supplied. The Vauxhall Company spent in one street 2400*l.* in pipes, and had in return the barren satisfaction of drawing from the Southwark Company tenants to the extent of 81*l.* The directors abused each other on paper, and the workmen actually fought in the streets. The famous war between Modena and Bologna, on account of the 'rape of 'the bucket,' was renewed in Southwark; and had the imaginative Tassoni lived in our days, he would have called to the inhabitants

> 'Vedrai, s' al cantar mio porgi l'orecchia,
> Elena trasformarsi in una Secchia.'

But no one good,—not even a good poem, as in the tuneful land of Italy,—resulted from this competition. The object of the companies was not to improve the water supply, but to ruin each other; the struggle was to get the custom of the rich,—none of them cared for the poor. The districts which were supposed likely to yield a good return had treble sets of pipes, and their streets perpetually broken up and rendered impassable; while others were left without water for domestic purposes and protection from fire. Water drawn from near Waterloo Bridge was supplied without even being filtered, although the sum annually expended in *useless* plumbing, paving, and canvassing, would have been more than sufficient for all that was wanted. While the companies under this process of mutual attrition were fast grinding their capital away, the sum paid by the public in water rents would have produced a dividend of *ten per cent.* upon the capital really requisite to provide them with an abundant supply of water. On both banks of the Thames, the coalition of the companies was followed by an augmentation of the water rates, beginning with 25 per cent. additional, and an extra charge for high service. The revenue has of course been enlarged in proportion; between 1821 and 1828 it increased, on the north side of the Thames alone, 44,000*l.* a year: in twenty years the total water rents have risen from 162,000*l.* to 370,000*l.* per annum.

Though competition, under these circumstances, does no good

to any one, the risk of competition, however remote, has a real effect in maintaining a costly and inefficient system. True economy in the distribution of water is obtained by a large outlay at first; but the possibility of losing the first outlay altogether, leads trading companies to reverse this principle, to save the first cost which falls upon them, and to swell the current charges which are paid by the public. The laying on of water to a fourth class house in London costs individuals about 4*l.* Neither the water company, the builder, nor the tenant will risk this first outlay, and consequently too often nothing is done; though all agree that if the first expense was borne by a public fund, and repaid with interest by a rate upon the property, the improvement would be readily adopted. Such economy is there in good *primary* general arrangements, that in Nottingham this same sum of 4*l.* per house has been found sufficient for all the outlay necessary to pump water from the Trent, to filter it, to convey it to the town, and to distribute it, at constant high pressure and in unlimited quantity, to every habitation.

The various improvements adopted by the water companies so far from arising from the principle of trade, are due solely to a threat of its being abandoned. The augmentation of rates consequent on the unholy alliance of 1817, produced a storm, which eventually burst in 1821, in the form of a Parliamentary inquiry, and taught the companies the danger of stimulating the public to seek an effectual remedy. Again, in 1828, a cry was raised against the quality of the water. Unhappily, in the conduct of this accusation the amount of truth contained in it was overlaid by great exaggerations; besides which, the Committee to whom the inquiry was entrusted, was not very judiciously handled, and symptoms of jobbing and favouritism appeared. The companies were not slow in availing themselves of the advantages thus placed in their hands: they exposed the errors of their adversaries; they brought up chemists and engineers, whose clear, cool evidence told well against the angry misrepresentations of their accusers. The Committee lost weight, —the Government refused to interfere,—and finally the companies, thankful at having weathered the gale, vowed amendment: some resorted to a purer source of supply, and others promised settling reservoirs and filtering beds. The cholera of 1832 produced in 1834 another Committee, but with no particular result. A scheme proposed by Mr. Telford broke down at once, not without some discredit to the author. Another Committee, in 1840, proved equally useless. While the public was relying on the expression of public opinion, and the effect

of competition, the companies had ceased to care for either, knowing that the only real remedy had not yet been thought of. They out-argued their opponents, puzzled the Committee, and left them to waste their time in investigating a variety of empirical projects. The Committee separated without reporting; and with this impotent conclusion ended the last effort at legislative interference,—leaving London in the hands of a water confederation. No man has redress against increased rates; no man can enforce attention to his complaints; and no man, we suppose, is rash enough to dream of actual resistance to an antagonist who can 'cut off his water supply.'

We say that the principle of trade is not applicable to the supply of water to the metropolis, not only because it produces an irresponsible practical monopoly, but because it is necessarily inadequate to the purpose. It is admitted that water rents cannot be collected from weekly tenants. For the companies to retail this necessary of life to the very poor, does not *pay;* though it would pay if the first cost was charged on the property, and the interest and current expenses included in the rent paid to the landlord. The companies therefore leave them unsupplied. We do not blame them for this,—it could not, and never will be, otherwise. But the mere fact, that a vast number of houses in London have no water supplied to them, (the Report of the Health of London Association in 1847 puts the number at 70,000: in the New River district the number of persons unsupplied was stated by the Health of Towns Commissioners to be 300,000,) is a positive proof that this principle does not accomplish what we require.

Mr. Babbage remarked, with great truth, how difficult it was for people to contend with monopolists who have tact enough to make some slight concessions when the public wrath begins to rise above 'the growling point.' Since 1817, the water companies have raised their rates and their dividends, and enormously augmented their revenues,—they have outlived two pestilences,—they have been subjected to four formal inquiries, in two of which the public mind was violently excited, and have come out of the ordeal stronger than before. Against the assaults of internal competition and external interference, they have been triumphantly successful. In this success lies, we think, the germ of their annihilation. On two points the public mind is in the course of being slowly made up; and the conclusion will be maintained all the more firmly, because it is formed against the national instincts. One is, that the principle of trade, applied under the most favourable circumstances, has failed to supply London with water as it ought to be supplied, and has failed most

where most required, viz. in the poor and densely populated districts. The other is, that it is in vain to hope for anything better for the future from the companies themselves, through any pressure, legislative or other, which can be brought to bear against them. The conclusion is inevitable,—a different principle must be adopted: if there must be a monopoly, and no doubt there must, let it be placed in the hands of the Government, or some public body responsible to the consumers.

The constitution of such a body deserves careful consideration. Its duties must extend to the drains of London. It is not at first an unnatural idea that the supply of water *to* a house and its removal *from* it, are such different services that they might be entrusted to different functionaries. But the mains and the sewers are merely vehicles for the moving power of the water, and all three are parts of one system and require the nicest adjustment to each other. Besides, the house drainage is considered to be three times as important as the sewer or street drainage, and is inseparably connected with the distribution of water—so that a line cannot be drawn anywhere with advantage; for whoever is answerable for the main sewers ought to have jurisdiction over the house drains, the pipes communicating with the mains, and the mains themselves up to the reservoir. If a distinction must be made somewhere, it ought to be at the discharging orifice of the reservoir; but we would prefer to concentrate responsibility on a single body, and that when complaints are made, the public should not be shuffled from one Board to another,—from those who distribute the water to those who merely convey it to London.

It would appear that as the funds for these purposes will be provided by the rate-payers, and the services of the Board chiefly devoted to supplying the wants of rate-payers, so the nomination of its members should proceed from them also. But we dread a Board whose members should have owed their election to their political bias or to their activity in canvassing; and when we see the working of parochial elections, and how often private interest and political combinations interfere with the public benefit, and how slight is the real responsibility of the elected, we believe that the great body of rate-payers, who after all would probably take no share in the choice, would be better pleased to devolve the responsibility of selection upon the Government. But it is a question for the inhabitants of London to decide: our only desire is to have a body with elevated views and amenable to public opinion.

We must say a few words as to expense; and we purposely avoid estimates, because there are broad facts stronger than any

estimates. The water rents paid in London amount to 370,000*l.* a year, and allowing 44 per cent. for current expenses, we have a net revenue of 200,000*l.* a year, which would raise and finally extinguish an outlay of 4,000,000*l.* The citizens defray also the expense of communication pipes, cisterns, &c. equal, as the engineers tell us, to the whole capital of the water companies; that is to say, as much capital is expended by the inhabitants in bringing water on the intermittent principle from the street to the house, as by the water companies in bringing it from the river to the street. We will, however, not call this more than one million. The repairs of these pipes are very expensive, two thirds of the labour being actually consumed in *useless* journeys, besides the waste from inexperienced workmen and bad work. Mr. Hawksley says that one half of this expense would be saved by the system of constant supply; and that in Nottingham, on the principle of constant pressure, one man and a boy can attend to 8000 houses, and keep all the works of distribution in perfect repair. Then there is the cost of removal of filth calculated at 20*s.* per house annually, and London contains 300,000 houses; so that the sum actually paid away every year in London represents a capital of at least *seven millions;* and this, without charging anything for fire insurance and sickness, the expense of which latter item should be reckoned in millions rather than thousands.

When we come to compare one city with another, we see at once that the cost per house of distribution will be greater in a large city than in a small one, but the first cost of an aqueduct will be smaller. There is no city in the world on which the cost of an aqueduct would fall so lightly as on London, in consequence of its immense size and its position in a level valley. Taking the scale of outlay for all purposes, from the experience of Nottingham, 4*l.* a house, it will give 1,200,000*l.* If we make full allowance and double that sum, we shall still only reach an amount represented by one third of our present annual expenditure. With the example of a small town such as Greenock or Nottingham, of larger towns such as Glasgow and New York, and with such a wide margin for error, we want no nice estimates to add force to our assertion, that an unlimited amount of water might be poured into London for less money than it now pays for a limited and bad supply, and that the most extravagant proceeding just now would be — to do nothing.

Some apprehension has been caused by the idea that the water companies would claim enormous sums as compensation.

Compensation for what?

We entirely disagree with those who seek to raise a clamour against the water companies. We should be glad to find that

after all they have not broken their promises, have not given us bad water, have not augmented the rates, have not neglected the poor, and that the calculations which prove their dividends bad, deserve the praise of honesty rather than ingenuity. Even if disappointed in this, we would not be over zealous in blaming men for having human infirmities, but conclude that these trading companies have only followed the law of their creation. On the whole, perhaps, the inhabitants of London have been served better than they had any right to anticipate. If praise or blame is to be administered, we think the praise should be given to the companies for not having given 'another turn to 'the screw,' and the blame to those whose short-sighted incapacity led them to trust the screw into any hands but their own. But this is a matter, not of praise or blame, but of money; nor to be determined on philanthropical or ethical, but on commercial principles. The agreement between the companies and the public is of the simplest character, beyond the wit of man to mystify. On the one hand, the companies proposed to risk their capital in the hope and on the chance that they would obtain remunerative dividends. On the other, the public were ready to submit their convenience, even their necessities, to the pleasure of an irresponsible body, to pay a large extra sum annually in the shape of profits to the trader, and all simply to keep their hands unfettered, and *not* to risk their capital. The existence of half these companies demonstrates that no one has a vested interest in the right of supplying water to London or any part of it. Sir W. Clay, chairman of three of the companies, says, quite fairly, 'to private parties the supply of water is a com-'mercial enterprise: they have a right to look for rates which 'will not only pay current interest on the capital expended, *but* '*as much larger a return as will be a compensation for the risk* '*incurred.*' Precisely so: but to repudiate the risks — one of them being this very chance of keeping up a virtual monopoly — and in the same breath claim it as the foundation of vested rights, could have occurred only to the London water companies,

> 'Those pagod things of sceptred sway,
> With fronts of Brass, and feet of Clay.'

Who offered to risk their money? The water companies. Who received the dividends? The water companies. Who claim the profits? The water companies. Who is to bear the losses? The public will, — if they pay compensation on resumption.

There is no class in the community but has a deep interest in the proper settlement of this water question. To the tradesman it comes directly home as a matter of business. When an epidemic breaks out, the wealthy escape to healthier localities: few Londoners will dispute that 1849 was a bad season, and that

little money comes across the counter when the Registrar General returns three thousand deaths a week. Landlords are affected by the non-payment of their rents. It is an axiom among builders that rent is best got from healthy houses, and all agree that the poor pay as honestly as any other class, so long as they have the means. Mr. Little, a builder, says that three fifths of his losses of rent from his tenants, who are working men, are caused by sickness — principally fevers and those debilitating illnesses which, arising from want of cleanliness, and bad drainage, fall under the head of preventible. It might be thought that the landlord's interest would of itself lead him to remedy this; but there are often divided interests, which do not and cannot act simultaneously, and the profit would be divided among many, while the first outlay would be borne by one. In these cases the difficulty can be removed by the law alone. No house should be allowed to be inhabited unless it be provided with the appliances of cleanliness. No man has a right to erect a nuisance: and the public has clearly as good a right and as great an interest in enforcing cleanliness to prevent the outburst of an epidemic, as in requiring party walls to prevent the spread of fire; to forbid the sale of putrid water, as well as of putrid meat. The first cost of what is necessary for the public health should be borne by the public, and the amount replaced by an annual rate upon the property.

Whatever increases the necessary expenditure of the workman increases by so much the cost of the produce of his labour, and is therefore a tax upon the consumer, whatever his position in life; besides which, the richer classes are often affected by circumstances from which they fancy themselves exempt. Albion Terrace, in the Wandsworth Road, consists of seventeen houses, and is occupied by persons in easy circumstances. Last August the spring from which they obtained water became contaminated with the leakage from a cesspool, and produced a disease which in a short time destroyed forty or fifty people in that one terrace. And the same thing may happen to any spring in London, such is the state of the subsoil. At Battersea, the spring used by a baker was poisoned in the same way, and for a long time the deleterious mixture was kneaded up in the dough, and sent round to his customers. Shocking as these things are, they are part of the great law which binds the rich and the poor together. It is well for us that our natural selfishness, hardened by the self-indulgence of wealth, should, at times, be rudely shaken, and aroused by our fears, if not by our sense of duty, — that we should be reminded that our destinies are inextricably mingled with those of the poorest and most degraded of our fellow countrymen, — that we have, after all, a common

humanity; and that property,—which all consider the main, and some the sole end of society,—has its duties, as well as its rights.

None are free from this law. The statesman, in the pride of conscious power, while by the magic of his words he bends the assembled Commons to his will, is the prey of an influence subtler than his own. When the strong excitement of the hour has passed away, the unstrung nerves, the feverish pulse, the throbbing head, may warn him, when it is too late, that a heavy vapour from the pestilential courts of Westminster had glided into the presence of the rulers of the land, and had been busy at its appointed work. Even in that rich and glorious chamber where the Queen meets the Peers of England, and where the genius of Barry, prodigal of decoration, has exhausted art in combining all that can enchant the eye and intoxicate the imagination, even there, some spectator more inquisitive and thoughtful than the rest, may have learned that under that very building passes a huge sewer, which is fast becoming an enormous cesspool, and in whose capacious recesses are fermenting the deadly gases, which, when encountered in their intensity*, kill with the suddenness of a stroke of lightning, but which more ordinarily float in the atmosphere, visiting the palace as well as the cottage, and bearing the seeds of disease upon their wings. It was a wisdom beyond man's wisdom which bade us remember that we have the poor always with us. The labouring classes ought to be the stay and strength of our country,—but neglect, though it will not dissolve the connexion which fastens the upper to the lower ranks of society, and is indeed a union for better for worse, may make our fate that which was inflicted by Mezentius, and link us to a festering mass of rottenness and corruption.

But there are higher principles of action than our riches or our health. We have already said, that this is quite as much a question of public morals. An eye-witness, speaking in September, 1849, says that in Bermondsey there is an open sewer into which all the house drains go. Houses are built over it, and it receives all the filth from them: the liquid puddle is of the colour of strong green tea. And this is what the inhabitants *drink!* Unable at first to credit the evidence of his senses, he questioned the people. They said 'they were obliged to drink the 'ditch without they could beg or thieve a pailful of water;' and a wretched mother added, 'neither I nor my children know what 'health is; but what can we do,—we must live where our bread 'is.' We would seriously ask how much longer these things are to go on in a Christian city? and what greater proof we need

* This was the case of the Pimlico sewer.

of the insufficiency of the principle of trade? Can we wonder that these people fly to the pothouse to quench their thirst? that, when they are thus led into temptation, intemperance works their degradation and becomes their curse? or that they have small respect for the legislation which is blind to the wants of the poor, but Argus-eyed to protect the speculations of the rich? If it were the will of Providence that Bermondsey should be fourteen times as unhealthy and miserable as St. James's, we should bow to the decrees of Omnipotence. But if it arises from the ways of man, shall we suit our words to our actions, and say, 'The rated annual value of London is ten millions — 'property is a sacred thing — we dare not trust it to the prin- 'ciple of trade — Government must interfere, and we will gladly 'pay the police-rate. But life is quite another matter; Go- 'vernments are sadly given to jobbing, — we pay enough in 'rates already; the principle of trade is good enough here — 'every man for himself; there is plenty of water for those who 'are able to buy it — let poor people drink at the sewers — who 'cares whether they live or die?'

What has been done by other towns may be done by London. At Aberdeen the water supply is managed most satisfactorily by a public body, the Police Commissioners. The constant pressure system has been adopted with infinite advantage by Preston, Nottingham, Greenock, Paisley, Ayr, Glasgow, Tavistock, Bristol, Newcastle, Philadelphia, and New York. The Thames gives an abundant supply; and an aqueduct thirty miles long is a trifling work compared to a railway. At Nottingham 5000 poor tenements are supplied with an unlimited quantity of filtered water in every house for a penny per week each, and this leaves a profit to the parties furnishing the supply. Whatever, too, is done now, should be done effectually, for nothing is so expensive as to do work twice over; — and the rapidity at which London is increasing is prodigious. It appears by a return laid before Parliament by the Commissioners of Police, that in the metropolitan district, in the ten years ending 1st January, 1849, there were built 64,058 new houses, making 200 miles of new streets, and that the increase of population was 325,904 persons. For five centuries London has been outgrowing its supply of water, and its annual augmentations are now far greater than ever. If we would legislate usefully for the future, we must not overlook the experience of the past. London may yet contain four millions of inhabitants, so that a cramped scheme must be a bad one; *magnitude* is a main element of success.

The shameful condition of our great capital in this respect is now fully before the public; and the credit of England is, we

think, involved in the course which we shall at last deliberately take. Whatever our provincial cities may do, it will be disgraceful to the nation if in our very metropolis we are surpassed in the arrangements for securing health and common decency, not only by the young republics of the New World, but even by the ancient empires of the Old. We boast of our wealth, our freedom, our science, our powers of combined exertion, our sense of comfort, and our love of cleanliness; we glory in our civilisation, but our glory becomes our shame, if still we are last in the race of humanity. The city of New York has expended 2,500,000*l.* on the Croton Water Works. An aqueduct forty miles long, and carried over the most formidable engineering difficulties, brings a daily supply of sixty millions of gallons for 400,000 inhabitants. This is an exertion of which our Transatlantic brethren may well be proud; it is a great work, and in a good cause, and we honour them for it. To form a just conception of it, we must consider the probability of the citizens of London, under a system of universal suffrage, taxing themselves to the extent of twelve millions and a half of our money in order to command a daily supply of 300 millions of gallons of water. Napoleon, the greatest administrative genius of modern times, proposed to supply Paris daily with 35 millions of gallons, brought by the Canal de l'Ourcq, from a distance of sixty miles. The scheme was postponed,—so that when the cholera appeared in 1832, a thousand persons sometimes perished in a single day; until the Parisian commissioners said, that in boundless terror and despair, the inhabitants fled precipitately from a city which they believed to be about to become their tomb. The capital of Eastern Europe has enormous cisterns; one of them, the reservoir of the 'thousand and one columns,' is calculated by Andreossi to be capable of holding a supply for Constantinople for sixty days. Carthage was supplied by an aqueduct forty miles long. Going farther back still, we find Solomon, the wisest of mankind, bearing testimony to the real duties of a government by building an aqueduct at Bethlehem to convey water from his *pools* or reservoirs to Jerusalem; and having thrown an arch or covering over his cistern, the Royal Poet draws a happy illustration from his own work, and (Cant. iv. 12.) compares his spouse to 'a garden inclosed, a 'spring shut up, a fountain sealed.'

But, beyond all other nations, the Roman people, that great race, the elevation of whose conceptions, and the granite firmness of whose character fitted them to become the masters of mankind,—and whose laws, whose combined and prolonged efforts, and lofty far-seeing policy seem rather the result of instinct than the slow product of human experience and observation,

recognised the importance of a due supply of water. Our difficulties, physical, social, and pecuniary, are as nothing compared to theirs: but the difference is still greater in our wills. We need not mention the sewers of their kings. Three hundred years before the Christian era the first aqueduct was made: before the republic ceased there were 800 baths in the city. After that, the emperors built those gigantic *thermæ* which are still the wonder of the world for their magnitude and scientific construction. The baths of Diocletian could accommodate 18,000 persons at once.

There is reason to believe that in Rome every house had its fountain: nor was a dwelling considered fit to receive a tenant, however poor, unless it was provided with a supply of water. Pliny, with natural triumph, asserts 'that if any person con-'sidered the abundance of water conveyed to the public for 'baths, fishponds, private houses, fountains, gardens, villas, 'over arches, through mountains, and across valleys filled up, 'he would acknowledge that nothing was ever more wonderful.' And well did the Roman energy justify this claim; for at one time the Imperial City contained 1300 reservoirs, into which the twenty mighty aqueducts that spanned the broad Campagna, poured a daily supply of fifty millions of cubic feet, or three hundred and twenty-five millions of gallons, of water.

It is vain to talk of freedom and civilisation, and vaunt of our Constitution as combining liberty with order, and sheltering our citizens alike from the bolts of autocratic tyranny and the storms of popular license, when we see our poor dying in pestilential courts; fighting in our streets, round a dribbling stand pipe, for the first element of cleanliness and health; or drinking, from the sewers of Bermondsey, worse than 'the gilded puddle which 'beasts would cough at:' and when we know that it would have been better for them if, we will not presume to say, they had never been born, but if they had been born the slaves of a Roman despot, or made good their way among a flight of emigrants to the munificent charity of New York.

Appius Claudius — who, about three hundred years before the Christian era, was censor and afterwards consul of Rome — was one of those remarkable men who impress on their age the stamp of their own minds. Greedy of power, and unscrupulous in the mode of acquiring it, he yet wielded it as became a statesman of the true Roman type. A fearless political reformer, he extended the franchise, and introduced into the Senate — until then a purely patrician assembly — a number of the sons of freedmen, hitherto despised by those haughty nobles as the sons of nobody. As clear-sighted in his administrative and sanitary, as he was bold in his political, measures,

he constructed the famous Appian Way from Rome to Capua, and the still more famous Appian Aqueduct, which brought water, from a distance of eight miles, for the poor citizens who had hitherto used the water of the Tiber, and inhabited the low district of the Circus,—the Bermondsey of Rome. It was said at the time that these undertakings exhausted the revenues of the city; but the statesman knew that in such works lie the secret springs of national wealth. The rising tide of prosperity soon replenished the treasury; and the unbounded ambition of Appius Claudius, though neither forgotten nor forgiven, will never be so favourably judged of, as when we read that by his exertions Rome was supplied with water, and when we find the historian, scorning our favourite principle of trade, emphatically calling upon his readers to remark that the first aqueduct of Rome was built for the benefit of the *poor*.

It may be fancy, but it seems to us that a cycle of above two thousand years has brought round, in Great Britain, a train of somewhat analogous circumstances. We, too, have seen the leaders of the people force their way to official power, extend the franchise, and invigorate our too patrician Legislative Assembly with a portion of the more popular element. More fortunate than the Roman consul, we have seen the reform withstand conservative reaction, and, like a breakwater, guard the edifice of our monarchy from the flood of anarchy and communism which deluged Europe and broke over the continental thrones. We have seen a network of five thousand miles of iron roads spread over our islands with an expenditure of labour, science, and money which makes even Roman roads seem but the playthings of children. These, too, are said to have exhausted our resources; but they are a storehouse of national wealth. We trust that some of our statesmen will complete the parallel; and that they who have won a name in history as political reformers, and struck the last fetters from our commercial system, will, like unto Appius Claudius except in his ambition, achieve the higher glory of bringing health and cleanliness to the dwellings of the poor.

This is the true glory which outlives all other, and shines with undying lustre from generation to generation,—imparting to its works something of its own immortality, and, in some degree, rescuing them from that ruin which overtakes the ordinary monuments of historical tradition or mere magnificence. The Tomb of Moses is unknown; but the traveller slakes his thirst at the Well of Jacob. The gorgeous palace of the wisest and wealthiest of monarchs, with its cedar, and gold, and ivory,—even the great Temple of Jerusalem, hallowed by the visible

glory of the Deity himself,—are gone; but Solomon's reservoirs are as perfect as ever. Of the ancient architecture of the Holy City not one stone is left upon another; but the Pool of Bethesda commands the pilgrim's reverence at the present day. The columns of Persepolis are mouldering into dust; but its cisterns and aqueducts remain to challenge our admiration. The Golden House of Nero is a mass of ruins; but the Aqua Claudia still pours into Rome its limpid stream. The Temple of the Sun at Tadmor in the wilderness, has fallen; but its fountain sparkles as freshly in his rays as when thousands of worshippers thronged the lofty colonnades. It may be that London will share the fate of Babylon, and nothing be left to mark its site save confused mounds of crumbling brickwork. But the works of Nature are imperishable. The Thames will continue to flow as it does now. And if any work of Art should still rise over the deep ocean of Time, we may well believe that it will be neither a palace nor a temple, but some vast aqueduct or reservoir: and if any name should still flash through the mist of antiquity, it will probably be that of the man who, in his day, sought the happiness of his fellow-men rather than their glory, and linked his memory to some great work of national utility and benevolence.

ART. IV.—1. *The Hellenics of* WALTER SAVAGE LANDOR, enlarged and completed. London: 1847.

2. *The Collected Works of* WALTER SAVAGE LANDOR. In two vols. medium 8vo. London: 1846.

3. *Poemata et Inscriptiones, novis auxit* SAVAGIUS LANDOR. London: 1847.

REMARKING, in a recent article, on the various schools of English poetry, we included Mr. Landor among those poets specially characterised by their devotion to ideal beauty and to classical associations. With classical literature his name has long been intimately joined, not only by many an 'Imaginary 'Conversation,' in which the heroes, poets, and philosophers of antiquity are evoked from the shades, but yet more by his poetry, formed as that has been, after a classical model,—his English poetry, not less than that written in the Latin language, of which he has been one of the latest as well as most successful cultivators. That model has its deficiencies as well as its excellencies. How great are the latter, is attested by the fact, that after the lapse of so many centuries, and the intervention of so many sources of interest, alien or adverse, we still

meet both scholars and men of original genius who seem never at home but when they breathe the air of antiquity.

In Mr. Landor's earlier dialogue between Southey and Porson, the latter is introduced expressing a preference for ancient above modern poetry. How far this statement indicates the opinions of the author we know not. We might be tempted to answer the question in the affirmative if we judged from a few strictures on Danté, which occur in Mr. Landor's 'Pentameron,' and which are written, as appears to us, with a keener appreciation of ancient poetry, than of the great bard so eloquently commented on. On the other hand, nowhere is a profounder admiration of Shakspeare evinced than in Mr. Landor's numerous works; and, assuredly, notwithstanding those lines, the tone of which, as one of our most discriminating critics, Mr. Leigh Hunt, has remarked, is thoroughly antique,—

> 'You nymphs called naiads, of the wandering brooks,
> With your sedged crowns, and ever harmless looks,'

Shakspeare is far indeed from resembling an ancient poet. If Mr. Landor's opinion, however, was expressed in the passage referred to, it has apparently undergone no change from the publication of 'Gebir' to that of the 'Hellenics,' a book which cannot be better described than by saying that the name has not been ill-chosen. The subject of nearly all the poems it contains is supplied by Greece, and the treatment is in accordance with that subject. The following challenge is made good,—

> 'I promise ye, as many as are here,
> Ye shall not, while ye tarry with me, taste
> From unrinsed barrel the diluted wine
> Of a low vineyard, or a plant ill-pruned,
> But such as anciently the Ægean isles
> Pour'd in libation at their solemn feasts.'

The Hellenics have all the clear outline, the definite grace, and the sunny expansiveness of Greek poetry, and not less its aversion to the mysterious and the spiritual. Above all they are classical in their peculiar mode of dealing with outward nature. We cannot better introduce them to our readers, than by a few remarks on the character of ancient literature in this respect.

The difference between ancient and modern poetry is in some measure analogous to that between the landscape of the South and of the North. Seen through air of gem-like purity, the former is characterised by its amplitude and its definiteness. A wider horizon embraces a nobler and larger field, — a field, notwithstanding, distinctly limited; for in that clear air the distant

mountain cuts the sky with a sharp and marked line. The landscape of the North is, on the contrary, seen as through a mist; but that mist harmonises the light and shade, freshens the near thicket with a more various colouring, and diffuses over the retiring distance a shadowy tenderness and pathos. In the former, the remote mountain looks like a hill, so clearly is every bush and rock revealed: in the latter, the hill hard by is robed in blue, and, from being placed at an imaginary distance, seems a mountain. The southern landscape is more beautiful to the senses, and lends itself more easily to Art: the northern makes a more touching appeal to the imagination, and lives more in the affections. When we say that the southern landscape lends itself easily to Art, we refer to the art of the painter, who in delineating its majestic and graceful outlines, and its colours, — mellow, and as it were seasoned, even in that resplendent light, — finds comparatively little which requires to be idealised.

How little the beautiful landscape of the South contributed to the kindred art of Poetry in ancient times, has been more than once remarked, but has not, so far as we remember, been adequately accounted for. And yet the circumstance could never have excited surprise if the true character of ancient poetry had been understood. That mountain scenery should have been distasteful to a Greek is a fact easily explained. Mountain scenery like that found in most parts of Greece is to none a matter of indifference. Like music, it is positively distasteful to those for whom it has not an attraction. Two characteristics of the Greek imagination indisposed it to such scenery, — its love of the orderly and the symmetrical, and its aversion to the unlimited and the terrible. There is an infinitude about mountain scenery, as about Gothic architecture. The broken precipice and abysmal gulf, — the ridges, line beyond line, pointing to and stretching after unattainable distances, — the rocks in their fall indicating unmeasured force, and where they lie arrested, eternal repose, — the labyrinthine defiles drawn out in endless perspective, — the chaos of cliff and peak in their wild harmony suggestive of a veiled design, — the valley convulsed in a moment, and the sabbath of the mountain top; these things, nay the very odours from forest depths, and the sighings of innumerable pines, include in them an element of the infinite. In such scenery the Greek imagination, possessing no key to its harmonies, saw nothing to delight it, but much to disquiet, to discompose, and to abash.

It is less easy to account for the fact that we find in Greek poetry but few allusions to the landscape of the plain. The Greeks were a loquacious race, and what they enjoyed they

ever celebrated; and the truth is that there are not only countless species of beauty in Nature's ample domain, but many different modes of enjoying the same beauty. The Greeks, however, appear to have regarded Nature in a manner at once too sensuous and too imaginative for the appreciation of landscape. For the mere bodily eye landscape can hardly be said to exist: the separate objects that compose it appeal at once, and individually, to the sense; but to combine those objects into a harmonious whole, to follow in thought the stream that flows past homestead, and tower, and town, to diffuse one's spirit over a wide tract, playing with the reeds in the foreground, reposing in relaxed enjoyment on the gradations of distance, and wistfully bending over the purple on the horizon,—in other words to enjoy the landscape as landscape,—is an endowment not of the sense but of a moral sentiment sustained by associations and affections. A much larger range and variety of feeling enter into modern life, and therefore into modern art:—Until some, while gazing on a landscape, can break out, with Cowper,—'His are 'the valleys, and the mountains his, and the resplendent rivers!' and, reconciled with Nature through knowledge of a common Creator, read in its countenance the hieroglyphic language of a spiritual world, and recognise in its perishable expanse the cradle, the home, and the grave of affections born for immortality. The Greek enjoyed Nature not less, but in an opposite manner. The very vividness with which each natural object, taken separately, thrilled through his delicate organisation, enkindling a child-like admiration and delight, must have proved an obstacle to that calm activity which combines object with object. His imagination also, as well as his sensibilities, acted after a fashion more impulsive and less reflective. It tarried with the object close by; but, looking on it as on a marvel that needed interpretation, it crowned it with a legend.

Few things are more curious than the connexion between Pantheism, the philosophic basis of Greek religion, and that polytheistic worship, apparently its opposite, though in reality but a different stage of its developement. The Pantheist believed in no creative God existing independently of Nature. He believed in a Spirit diffused throughout all Nature, animating it and sharing its eternity. He looked upon Nature in a double aspect. Its perishable details he regarded with a lofty indulgence, or with an Epicurean sympathy; but on its cyclical and self-renewing revolutions, on its rivers unexhausted while wave after wave disappeared, its forests, springing up again from the soil of their own dead leaves, its day re-issuing out of night, and life reborn from death,—on these

things he gazed with wonder and with reverence. The raging torrent or the fertilising stream seemed alike to him an attribute of the one pervading Spirit,—a function of the one diffused Life. A divinity not representing a prevailing Will, but a pervading Existence, and presented to the Mind rather than to the Moral Sense, was thus worshipped in the natural objects that symbolised its offices, as it might equally have been through images made by mortal hand. Such a theology will not long remain a religion in the higher sense of the term. It will not *bind* men, through a spiritual awe, to practical self-sacrifice. The balance between the sensuous and the supersensuous may by it be maintained as long, and only as long, as the moral sense retains a supreme place in the human heart. But in the downward tendency of natural instincts, the heart gradually surrenders its charge to the unsafe keeping of the imagination, a faculty prone to divinities, but less jealous in the vindication of their integrity than of its own liberty. The belief which Fancy simulates for its own contentment fills up, indeed, for a time, the place, and conceals the departure of that Faith to which the soul had once acknowledged a devout allegiance. The sense of religious obligation, however, once dissipated, the great central idea, that of the unity of the pervading Divinity, relaxes its grasp; and in the warm atmosphere of a pleasurable credulity, the seal melts from the testament of faith, the covenant of duty is abrogated, and the spiritual inheritance is forfeited. Powers which formerly were venerated as distinct but indivisible attributes of the one universal Divinity, require more and more, in proportion as their common internal support is removed, a sensible type, in order to be realised. Previously those Powers had, as it were, stood round the circle of existence, fixed and lifeless symbols: in a moment the centre to which they were attached ceases to exist; each now lives and moves; emblems become realities, and attributes rise into Gods.

At the same period that religion is superseded by art, priests are supplanted by poets. These poets are mythologists; and daily in their hand the worship which consecrates grove and stream acquires a more distinct articulation. Reverence for the supernatural having passed away, their function is to make relics of the memorials it has left behind, to bind into chaplets the flowers which Proserpine dropt in her flight, and to elevate Nature without transfiguring it. Marvellously did the Greek intelligence, penetrating at once and plastic, adapt itself to this labour. A profound sympathy with Nature so considered, made them familiar with her kindly meanings and half-uttered words. They set the latter to a congenial music; but they never de-

parted from the sense. In interpreting her works, they were careful to add little, and to explain nothing away. They never, like the Indian or Egyptian mythologist, sacrificed beauty to philosophy, or extended the symbol into ungainly allegory. The powers which embodied the different elements continued elemental still. If the nymph emerged from the sea,

> 'Her mantle showed the yellow samphire pod,
> Her girdle the dove-coloured wave serene.'

The Hamadryad, with her labyrinthine hair, her shadowy aspect, and murmuring, scarce organic voice, seemed as native to the boughs from amid which she rose, as the bubble is to the fountain. These divinities represented nothing truly divine, because they did not include the idea of Holiness; but they were next to the divine, for they were human without the burden of mortality. The tutelary powers of hill and dale, if they kept the keys of no temple, opened out at least the 'palace of the humanities,' and enabled the supreme earthly being to behold his own image in every earthly shape.

We shall at once illustrate the preceding observations, and give the reader a specimen of Mr. Landor's volume, by a few quotations from the poem called 'The Hamadryad.' Its merit consists chiefly in the art with which the mythological idea is blended with a human interest. A Carian youth gazes wistfully on Gnidos from the mountain side, while the rural population is thronging to the temple of Venus, to celebrate her festival. His father sends him to help in cutting down an old oak. The Hamadryad reveals herself: —

> 'The youth
> Inclined his ear, afar and warily,
> And cavern'd in his hand. He heard a buzz
> At first, and then the sound grew soft and clear,
> And then divided into what seemed tune,
> And there were words upon it, plaintive words.
> He turned and said, "Echion! do not strike
> That tree: it must be hollow; for some God
> Speaks from within. Come thyself near." Again
> Both turn'd towards it: and behold! there sat
> Upon the moss below, with her two palms
> Pressing it, on each side, a maid in form,
> Downcast were her long eyelashes, and pale
> Her cheek, but never mountain-ash display'd
> Berries of colour like her lip so pure,
> Nor were the anemonies about her hair
> Soft, smooth, and wavering like the face beneath.' (P. 33.)

The youth addresses her: —

'Who art thou? whence? why here?
And whither would'st thou go? Among the robed
In white or saffron, or the hue that most
Resembles dawn or the clear sky, is none
Array'd as thou art. What so beautiful
As that gray robe which clings about thee close,
Like moss to stones adhering, leaves to trees,
Yet lets thy bosom rise and fall in turn,
As, toucht by zephyrs, fall and rise the boughs
Of graceful platan by the river side.' (P. 34.)

They become lovers. Raicos, though he conceals the marvel from his father, persuades him to spare the tree; and the old man's piety receives its reward from the Hamadryad's bounty in a constant tribute of honey and of wax. For a long time the love of the mortal and the immortal meets with no disturbance; but in an evil hour the Hamadryad devises a means of proving her lover's fidelity: —

'Raicos went daily; and the nymph as oft,
Invisible. To play at love, she knew,
Stopping its breathings when it breathes most soft,
Is sweeter than to play on any pipe.
She play'd on his: she fed upon his sighs:
They pleased her when they gently waved her hair,
Cooling the pulses of her purple veins,
And when her absence brought them out, they pleased.
Even among the fondest of them all,
What mortal or immortal maid is more
Content with giving happiness than pain?
One day he was returning from the wood
Despondently. She pitied him, and said
"Come back!" and twined her fingers in the hem
Above his shoulder. Then she led his steps
To a cool rill that ran o'er level sand,
Through lentisk and through oleander, there
Bathed she his feet, lifting them on her lap
When bathed, and drying them in both her hands.'

* * * * *

'"There is a bee
Whom I have fed, a bee who knows my thoughts
And executes my wishes: I will send
That messager. If ever thou art false,
Drawn by another, own it not, but drive
My bee away: then shall I know my fate,
And .. for thou must be wretched .. weep at thine."'
(Pp. 40—42.)

The bee proves a trusty messenger, but not a skilful negotiator. One night it buzzes at the ear of Raicos at the moment

when he is perplexed by impending defeat at a game of drafts. Rashly and recklessly the youth raises his hand, and the bee returns to the oak, bruised and with broken wing. The legend ends thus:—

> 'At this sight
> Down fell the languid brow, both hands fell down;
> A shriek was carried to the ancient hall
> Of Thallinos: he heard it not; his son
> Heard it, and ran forthwith into the wood.
> No bark was on the tree, no leaf was green,
> The trunk was riven through. From that day forth
> Nor word nor whisper sooth'd his ear, nor sound
> Even of insect wing: but loud laments,
> The woodmen and the shepherds one long year
> Heard day and night; for Raicos would not quit
> The solitary place, but moan'd and died.' (P. 44.)

It is in delineating the least pronounced part of the Greek mythology that a clear discernment of its meaning is most required. In the poem from which we have quoted, the shadowy nature of a being not so much elevated above our mortal nature as standing at one side of it, seems to us most happily indicated. Such discrimination has long been rare, both in French and in English poetry. In the gods, as described by each, the godlike element is left out; while the heroes of antiquity are, and yet more frequently were during the last century, restored to life as courtiers and fine gentlemen, touchy about their honour, and admirable in the decorum with which they carry their wig above peplon or toga. Prior was not unfamiliar with ancient mythology; but in his case familiarity may be said to have bred contempt; and though many classical touches are to be found in his verses, yet, in his jocular vein, he too frequently degrades his Venuses and Cupids not less than his Chloes and Silvias. Akenside, in his 'Hymn to the Naiads,' presents us with forms truly antique, but the spirit of life is not in them. He imitates the ancients rather than catches their inspiration, and the repast which he lays before us, however grand, is served up cold. Dryden and Pope, men whose masculine understandings and manifold accomplishments must, despite the caprices that affect public taste, long preserve for them the high place they have occupied, largely as they translated from the ancient poets, never entered into the genius of the ancient mythology. The spirit of Theocritus is not to be found in Dryden's version of his Idyls. In his noble 'Ode on St. Cecilia's Day' it has been well remarked that when he makes Bacchus show 'his honest face,' he wholly misses the mythic idea of the mysterious divinity whom he vulgarises. Pope, in his ode on the same occasion, is still more un-

fortunate; and although, in his 'Tartarus,' Proserpine is stern and Orpheus devoted, while Ixion, Sisyphus, and the Furies, 'do 'what they ought to do' with laudable industry, we lack, notwithstanding, both the awfulness and the serenity of the Elysian region.

Nor has ancient mythology fared much better in the hands of most of our recent poets. They have loved it more; but their love has often been as undiscriminating as that of a wood-god for a fugitive nymph. They have not always appreciated the character of divinities, even when exhibited in sculpture before their eyes. Lord Byron, in his 'Childe Harold,' describing the Venus de Medicis, asks the goddess whether she appeared 'in 'this guise' to Paris, or to 'more deeply blessed Anchises,' or to Mars; more fortunate still; and then follows a rhapsody about 'lava-kisses, melting while they burn,' showered on the cheek of the recumbent war-god. Such a group would hardly have suggested itself to the imagination of a Greek sculptor about to embody a Phedra; and is in strange contrast with the Venus of the Florentine Tribune, that beautiful and passionless impersonation of the morning star. Elaborate blunders in a case of this kind are the less pardonable, because it is especially through the interpretation of Greek art that the several characters of Greek divinities are to be distinguished. We require no allusive attribute, neither quivered shoulder nor crescented brow, to recognise a Dian in those feet, firm and alert, though for the moment arrested, that slender but sinewy form, and, above all, the far-projected Apollonian glance, clear as the beams of the sister luminary embodied. With the form, equally girlish but simply joyous and blameless, of a Hebe or a Grace, such a divinity was almost as strikingly contrasted as with a Pallas, a goddess chaste as the Huntress that outsped the shafts of Love, but chaste from the collected sternness of self-sufficing strength, and from the high wisdom, confederate with virtue, which subdued the presuming with its Gorgon and presided over every industrious art. The character of a Venus was expressed not less plainly, in early ages of art, by the union of perfect beauty with a reserve and sacredness which belongs to the maternal relation, and in later by the languishing and humid eye, the lips enwreathed with smiles and dubious look, the narrow shoulders, the marvellously-moulded form, slightly developed and yet luxuriant, in which numberless and incalculable curves were lost in one another, and finally by the slender feet, and the tread, at once confiding and insecure, apparently accustomed to a more unstable element than earth. The genius of a nation's poetry will ever be exhibited in its other arts,—at least, in those it

cultivates,—as the latent spirit of its philosophy is disclosed in its laws.

The merit of Mr. Landor's poetry consists so much more in the grace of his narratives, the skill with which they are worked out, and the perfection of their proportions, than in particular passages, that our extracts, we fear, will do it little justice. We meet the beautiful Hamadryad once more in the tale of Acon and Rhodope. On the anniversary of that day so fatal to her and to her lover, the oak is visited by a plighted youth and maid, who exchange love vows beneath its black and blasted branches. The father of Acon is rich, and does not choose that his son should marry without an ample dowry. The youth laments, but submits, and the girl is deserted. The contrast between the two is touchingly given:—

> 'Rhodope, in her soul's waste solitude,
> Sate mournful by the dull-resounding sea,
> Often not hearing it, and many tears
> Had the cold breezes hardened on her cheek.
> Meanwhile he sauntered in the wood of oaks,
> Nor shunn'd to look upon the hollow stone
> That held the milk and honey, nor to lay
> His plighted hand where recently 'twas laid
> Opposite her's, when finger playfully
> Advanced and pusht back finger, on each side.
> He did not think of this, as she would do
> If she were there alone.' (P. 48.)

Acon expiates the sacrilege he has committed in profaning by his presence a spot consecrated to fidelity. The Hamadryad visits him in a dream as, oppressed by the heat of the day, he falls asleep beneath her tree. Gently she leads him on through a wood, glowing at first with all the glories of vernal life, but, ere long, wintry and bare. Sternly she rebukes him for having desecrated her haunt, and commands him to return to his home, and find there what happiness he may. Acon dies, and the hard father

> 'Had land enough: it held his only son.'

The tale of 'Enallos and Cymodameia' celebrates, on the other hand, the tutelary care of the powers who reward constancy and truth. Apollo, in a vision, commands three young men to lead forth a colony to the Isle of Lemnos; warning them at the same time that they must propitiate Neptune by flinging a virgin alive into the sea. The oracle is declared; and, though the maidens of the parent city are not unwilling to form households in a new land, they refuse to sail until the victim has already been found, and the sacrifice been completed. One ex-

ception, however, there is: Cymodameia had dreamed that her betrothed lover had been cast into the deep, and that she had saved him. Secretly she embarks in the same ship with the youths, and is found at noon hidden among the cloaks and high-piled fruits. The third day the storm falls on the sea, and the scowling waves demand their victim. The crew call to mind the oracle, and unmoved, in their panic, by supplications or tears, hurl the virgin into the deep. Swift 'as ring-dove after 'ring-dove,' Enallos follows her. The colony is formed, and, as years roll by,

> . . . . 'roofs
> Collected the dun wings that seek house fare;
> And presently the ruddy-bosom'd guest
> Of winter, knew the doors: then infant cries
> Were heard within: and, lastly, tottering steps
> Pattered along the image-stationed hall.'

Meantime the lovers are unforgotten; and, while beside the new hearths their story has become a tale for winter nights, Apollo looks down into the deep, and beholds them where

> . . . 'Gravely gladsome light
> Environed them with its eternal green,
> And many nymphs sat round.'

We can find room for the conclusion only. The maid of earth grows jealous of the sea nymphs, and her lover supplicates Apollo to restore her to a happier home. He is heard: —

> 'She saw him in the action of his prayer
> Troubled, and ran to soothe him. From the ground,
> Ere she had clasp't his neck, her feet were borne.
> He caught her robe; and its white radiance rose
> Rapidly, all day long, through the green sea.
> Enallos loost not from that robe his grasp,
> But spann'd one ancle too. The swift ascent
> Had stunn'd them into slumber, sweet, serene,
> Invigorating her, nor letting loose
> The lover's arm below; albeit, at last
> It closed those eyes intently fixt thereon,
> And still as fixt in dreaming. Both were cast
> Upon an island, till'd by peaceful men
> And few . . no port nor road accessible . .
> Fruitful and green as the abode they left,
> And warm with summer, warm with love and song.
> 'Tis said that some, whom most Apollo loves,
> Have seen that island, guided by his light;
> And others have gone near it, but a fog
> Rose up between them and the lofty rocks;
> Yet they relate they saw it quite as well,
> And shepherd-boys and credulous hinds believe.'

The most deeply-toned and perhaps the most beautiful of Mr. Landor's Hellenics is that one which bears the name of Corythos, the son of Paris and of Œnone. The forsaken mother has heard of the arrival of Philoctetes from the island of Lemnos, with the arrows of Hercules by which the Fates had decreed that Paris should die. Love, or the memory of love, is stronger than all beside; and she sends her son to give his father warning. Helen recognises the child by his resemblance to that father, and brings him to their palace, resolved to win his affections, and thus to gain an additional hold on her husband's unsteady love. One evening, when the palace resounds with mirth, and the heart of the prince is cheered with wine, Corythos, eager at once and awed, stands, for the first time, before his father. Unfortunately, around his shoulders there hangs the vest which Helen, in former days, had worked for Menelaus. The woman had remembered its beauty, but had forgotten the occasion on which it was wrought. Stung with sudden rage, Paris leaps from his seat, strikes the young stranger with his sword; and the boy, still unrecognised, expires at his father's feet. On discovering the truth, Paris, overcome with despair, and seeing no longer a charm even in Helen, rushes forth once more to battle. At night he revisits the tomb of his son on the sea-shore; and there the fatal arrow transfixes him. He is carried, by his own command, up the steeps of Ida. Œnone possessed a gift of healing herbs; but she had prayed of the Eumenides that from her hand aid might never come to the destroyer of her child. Paris demands but her love and forgiveness; and she dies with him.

The reader will linger over and return to many passages of this poem; especially to the description of Helen, and the lamentation of Œnone, as—the tears dried on her cheek by the bitter wind—she stands among the cones and the whirling pine-leaves with which the Idean hill is strewn, and watches her son descending to the city. We should also gladly have quoted the lines descriptive of the Trojan prince's palace, adorned with statues, golden and ivory, and with pictures, the gift of Dædalos, as well as the lines which describe the last visit of Paris to the abode of his early love. We must content ourselves, however, with a shorter extract. Wounded, and weak with loss of blood, Paris is left, all night, alone on the tomb of his son. His recognition in the morning is as simple and touching as the recognition of Ulysses.

> 'But when an iron light
> Begins to peer o'er the cold plain, and wakes
> From their brief sleep the tamer animals,
> They of the household rise, and all around

In grove, in champain, seek their absent lord,
And, as if there the search should be the last,
At his son's tomb. The race that cheers the ear
Of Morning with its voice, and penetrates
With its bold breast the woodland stiff with frost,
And, watchful at the gate in life's extreme,
Is faithful to the wretched and the poor,
With eyes as languid on his languid eyes
Looks sorrowing down, and licks them unreproved.'

Mr. Landor's poetry has sometimes been charged with a deficiency of pathos. It is true that in general he loves rather to exhibit human life in the exhilarating and equable light of day, than tinged with the lights of a low horizon, and clouded with those extended shadows which belong especially to the declining eventide of literature. His pathos has, notwithstanding, a peculiar depth and tenderness; and though unostentatious, is very far from being infrequent. The 'Death of Artemidora' may serve as a specimen.

'Artemidora! Gods invisible,
While thou art lying faint along the couch,
Have tied the sandal to thy slender feet
And stand beside thee, ready to convey
Thy weary steps where other rivers flow.
Refreshing shades will waft thy weariness
Away, and voices like thy own come near
And nearer, and solicit an embrace.'
Artemidora sigh'd, and would have prest
The hand now pressing hers, but was too weak.
Iris stood over her dark hair unseen,
While thus Elpenor spake. He lookt into
Eyes that had given light and life erewhile
To those above them, but now dim with tears
And wakefulness. Again he spake of joy
Eternal. At that word, that sad word, *joy*,
Faithful and fond, her bosom heav'd once more:
Her head fell back: and now a loud deep sob
Swell'd thro' the darken'd chamber; 'twas not hers.' (P. 60.)

Very different in the character of its pathos is the tragic scene entitled the 'Madness of Orestes.' It commences thus: —

'*Orestes.* Heavy and murderous dreams, O my Electra,
Have dragged me from myself.
Is this Mycenai?
Are we.. are all who should be.. in our house?
Living? unhurt? our father here? our mother?
Why that deep gasp? for 'twas not sigh nor groan.
She then..'twas she who fell! When? how? beware!

No, no, speak out at once, that my full heart
May meet it, and may share with thee in all..
In all.. but that one thing.
It was a dream.
We may share all.
They live? both live?
Oh, say it!
Electra. The Gods have placed them from us, and there rolls
Between us that dark river....
Orestes. Blood! blood! blood!
I see it roll; I see the hand above it,
Imploring; I see *her*.
Hiss me not back,
Ye snake-haired maids! I will look on; I will
Hear the words gurgle thro' that cursed stream,
And catch that hand.. that hand.. which slew my father!
It cannot be.. how could it slay my father?
Death to the slave that spoke it!.. Slay my father!
It tost me up to him to earn a smile,
And was a smile then such a precious boon,
And royal state and proud affection nothing?
Ay, and thee too, Electra, she once taught
To take the sceptre from him at the door.
Not the bath-door, not the bath-door, mind that!..
And place it in the vestibule, against
The spear of Pallas, where it used to stand.' (Pp. 82, 83.)

If Mr. Landor's various dramas were braced and animated by such a spirit as sustains the fragment of which we have quoted the earlier lines, few modern dramatists would stand on his level. Such, however, is not the fact. Many dramatic gifts are fatally marred by one deficiency. He has not, apparently, the faculty of devising a plot in which incident not only follows, but results from, incident; while each and all, instead of being connected merely by the chain of phenomenal causation, rest on a moral support, and illustrate character. Mr. Landor is accordingly more successful in his fragmentary dramatic scenes than in his dramas, none of which appear to us written with the same power, either in the delineation of character or of passion, which is to be found in many of his 'Imaginary Conversations;' as, for instance, in that true prose poem, the dialogue between Tiberius and Vipsania; or that one between Peleus and Thetis, in which a mournful passion is so marvellously introduced into a subject belonging, it might seem, exclusively to the imagination. Among his dramatic fragments is a poem entitled 'Luther's 'Parents,' remarkable for its combination of humour with a rich fancy and domestic tenderness. Martin's mother has seen, in a dream, an infant radiant as the stars, who holds a

sword at which 'tottering shapes, in purple filagree,' tug in vain, and round whom devils with angel faces throng without appalling him. Her ambition is fired. She has hopes that her child may one day be a chorister; and she ruminates the several steps of advance to which so high a beginning might possibly lead, till her more impatient husband—an honest peasant—anticipates the goal of such reveries, and exclaims,—not without some particle of truth,—

'Ring the bells! Martin is Pope, by Jove!'

This poem originally appeared in the 'Tribute,' a volume published for the benefit of the family of the late Mr. Smedley; and we are glad to see that it has been reprinted in the recent complete edition of Mr. Landor's works.

Scattered among Mr. Landor's works are to be found many passages of philosophical poetry. The following lines, the commencement of a poem called 'Regeneration,' will show the style, in which these graver thoughts are wrought into the pattern of fanciful and embroidered verse: —

'We are what suns and winds and waters make us;
The mountains are our sponsors, and the rills
Fashion and win their nursling with their smiles.
But where the land is dim from tyranny,
There tiny pleasures occupy the place
Of glories and of duties; as the feet
Of fabled fairies, when the sun goes down,
Trip o'er the grass where wrestlers strove by day.
Then Justice, called the Eternal one above,
Is more inconstant than the buoyant form
That burst into existence from the froth
Of ever-varying ocean: what is best
Then becomes worst; what loveliest, most deformed.
The heart is hardest in the softest climes,
The passions flourish, the affections die.' (P. 274.)

Another of Mr. Landor's political poems is addressed 'To 'Corinth.' The concluding lines are better, we think, in expression than in sentiment: —

'Confide then in thy strength, and unappall'd
Look down upon the plain, while yokemate kings
Run bellowing where their herdsmen goad them on.
Instinct is sharp in them, and terror true.
They smell the floor whereon their necks must lie.'

With Mr. Landor's political creed we can by no means agree. Referring to it only so far as it connects itself with poetical aspirations, we may observe that it seems to us strangely to merge the ethical character of the modern world in the poetical and poli-

tical associations of the ancient. Even if Europe should at some future period be covered with republics, those republics will, we suspect, bear a yet smaller resemblance to the republics of antiquity than to the monarchies of the present day. Old names may be revived; but it is impossible to restore the spirit of the institutions which they designate, and which fell to pieces for the most part, because, congenial as they had been to the ethical system of early Greece and Italy, they stood in no such relation to the religion, the morals, and the manners which superseded that system. Republics in modern times have resembled those of antiquity sometimes in their aggressive spirit, and sometimes in their sanction of slavery, but seldom, especially when tried on a large scale, in the qualities which might recommend republican institutions to men attached to the most striking associations of antiquity. The merely political question is, however, beyond our present theme.

We regret being obliged to leave so many of the Hellenics unnoticed; especially that Idyl, replete with the spirit of Theocritus, in which the love of Pan for the nymph Pitys is sung, together with the jealousy of Boreas, his rival. To poems of an earlier date than the Hellenics we shall proceed to refer briefly — not in the vain hope of introducing real lovers of poetry into a region not already trodden by their feet, but — for the purpose of illustrating from a larger range of his poetry, the qualities most characteristic of Mr. Landor. The longest and most important of his poems is 'Gebir,' the tale of the Iberian chief who, in vindication of his ancestral claims, undertook the conquest of Egypt; and who, when (smitten by the charms of Charoba, the young queen of that land) he had abandoned the enterprise, was slain at the marriage-feast by the treachery of Dalica, her nurse. It is perhaps in this poem that we meet most abundantly with instances of Mr. Landor's extraordinary descriptive power. The following lines may be taken as an example. Charoba, alarmed at the approach of her unknown enemy, has resolved to win him by persuasion to terms of peace:—

'But Gebir, when he heard of her approach,
Laid by his orbed shield; his vizor-helm,
His buckler and his corset he laid by,
And bade that none attend him: at his side
Two faithful dogs that urge the silent course,
Shaggy, deep-chested, croucht; the crocodile
Crying, oft made them raise their flaccid ears
And push their heads within their master's hand.
There was a brightening paleness in his face,
Such as Diana rising o'er the rocks
Shower'd on the lonely Latmian; on his brow
Sorrow there was, yet nought was there severe.

But when the royal damsel first he saw,
Faint, hanging on her handmaids, and her knees
Tottering, as from the motion of the car,
His eyes lookt earnest on her, and those eyes
Showed, if they had not, that they might have loved,
For there was pity in them at that hour.' (P. 488.)

The descriptive passages, so thickly scattered over the poem, are equally true to Art and to Nature, and frequently remind us of an antique relievo. Such are the lines describing a procession (book iv., line 200.) in which we read of

'Stubborn goats that eye the mountain top
Askance, and riot with reluctant horn.'

Invariably, also, they are characterised by brevity, as in the picture of moonlight on the sands: —

'Restless then ran I to the highest ground
To watch her: she was gone; gone down the tide;
And the long moonbeam on the hard wet sand
Lay like a jasper column half uprear'd.'

Not less in the spirit of antiquity is the following image:

'And now the chariot of the Sun descends,
The waves rush hurried from his foaming steeds,
Smoke issues from their nostrils at the gate,
Which, when they enter, with huge golden bar
Atlas and Calpè close across the sea.'

The Objectivity — (for it is in vain any longer to refuse admission to this unpleasing but useful word,) — the Objectivity which so remarkably characterises Greek poetry nowhere makes itself more perceived than in the Greek conception of Love. In the middle ages that passion was elevated, by the influence of Christianity and of its offspring, chivalry, into an imaginative worship. The objects of this devotion belonged to an ethereal region of seclusion and mystery, shining with benign virtue on the ways of men, but rather rewarding adoration than reciprocating passion. The love described in modern literature has descended from the firmamental region to that of the clouds; and if it continues loftier in its character than that delineated by the ancients, it is vaguer also, and more indeterminate. Love, as conceived by the Greeks, was neither ennobled by sentiment, nor weakened by sentimentalities. It neither languished in love-sickness, nor flamed up, like a wandering meteor, an irreligious substitute for religion. It was a plain, honest passion, — ardent, joyous, and earnest; pure, at least, from all morbid consciousness, and going straighs, like a sun-shaft, to its object. As such it is portrayed by Mr. Landor. In the person

of the sea-nymph who has become enamoured of Tamar, the shepherd brother of Gebir, it is expressed with the wild, spontaneous impulse which belongs to the elemental Powers, touched but by the fleeting shadows of humanity: —

'Return me him who won my heart, return
Him whom my bosom pants for, as the steeds
In the sun's chariot for the western wave.'

In a mortal maiden the same passion is very differently indicated: —

'I since have watcht her in each lone retreat,
Have heard her sigh, and soften out the name;
Then would she change it for Egyptian sounds
More sweet, and seem to taste them on her lips,
Then loathe them; *Gebir, Gebir* still returned.
* * * * * *
Lone in the gardens, on her gathered vest
How gently would her languid arm recline!
How often have I seen her kiss a flower,
And on cool mosses press her glowing cheek!'

Among the severer tests of artistic skill in poetry may be included the use or abuse of Episode. In nothing else have the ancient poets shown a finer executive tact. Too often in modern narrative an episode is but an impertinent interruption, swelling its bulk, and checking its progrets: And this is ever likely to be the case when it is introduced merely as an ornament. Among the functions of an episode one is to relieve the graver tenour of a poem, by the introduction of an interest subordinate to and yet congenial with its main interest, or at once analogous to it, and contrasted with it. Toward the end of a poem, an episode, especially a short one, often only adds to the reader's interest by the interposition of an obstacle, leading him away from that which he would fain explore, as the parent bird lures the intruder from her nest. In this department of the poetic art Mr. Landor is very felicitous. As an instance we may cite the episode of the marriage of Tamar, in the sixth book. It illustrates also our remarks on the relation in which Nature stands to the Greek mythology. The sea nymph, the morning after her espousals, desires to withdraw the thoughts of her mortal bridegroom from the evil omens which threaten his brother.

'"O, seek not destin'd evils to divine,
Found out at last too soon! cease here the search,
'Tis vain, 'tis impious, 'tis no gift of mine."'

She touches Tamar's eyes, and the wonders of the watery realm pass before them.

'"Thus we may sport at leisure when we go
Where, lov'd by Neptune and the Naiad, lov'd
By pensive Dryad pale, and Oread,
The sprightly Nymph whom constant Zephyr woos,
Rhine rolls his beryl-colour'd wave; than Rhine
What river from the mountains ever came
More stately? Most the simple crown adorns
Of rushes and of willows intertwined
With here and there a flower: his lofty brow
Shaded with vines and misletoe and oak
He rears, and mystic bards his fame resound.
Or gliding opposite, th' Illyrian gulph
Will harbour us from ill." While thus she spake
She toucht his eyelashes with libant lip
And breath'd ambrosial odours, o'er his cheek
Celestial warmth suffusing: grief disperst,
And strength and pleasure beam'd upon his brow.
Then pointed she before him: first arose
To his astonisht and delighted view
The sacred isle that shrines the queen of love.
It stood so near him, so acute each sense,
That not the symphony of lutes alone,
Or coo serene, or billing strife of doves,
But murmurs, whispers, nay, the very sighs
Which he himself had utter'd once, he heard.
Next, but long after and far off, appear
The cloud-like cliffs and thousand towers of Crete,
And further to the right, the Cyclades;
Phœbus had rais'd, and fixt them, to surround
His native Delos, and aerial fane.
He saw the land of Pelops, host of Gods;
Saw the steep ridge where Corinth after stood
Beckoning the serious with the smiling Arts
Into her sun-bright bay: unborn the maid
That to assure the bent-up hand unskill'd
Lookt oft, but oftener fearing who might wake.
He heard the voice of rivers: he descried
Pindan Peneus and the slender nymphs
That tread his banks, but fear the thundering tide:
These, and Amphrysos, and Apidanos,
And poplar-crowned Sperchios, and, reclined
On restless rocks, Enipeus, where the winds
Scatter'd above the weeds his hoary hair.
Then, with Pirenè and with Panopé,
Evenos, troubled from paternal tears,
And last was Acheloös, king of Isles.' (Book vi. line 116.)

The chief fault of 'Gebir,' we should say, was its occasional obscurity: an obscurity, indeed, of more kinds than one. In one or two places the story is not distinctly made out. A few lines

interposed here and there would be sufficient to clear up all doubt, which indeed, in the Latin version, is precluded by the argument prefixed, that excellent invention of times when the interest of a novel was not sought in poetry, and when no surprise was thought necessary. The ancients, treating in general themes well known, threw their narrative poems into large masses, and often neglected the connecting link of mere detail, by which part is joined to part; influenced no doubt by the same aversion to the trivial and the accessory, which made the Greek sculptor abstain from connecting the head of the horse with the hand of the rider by a marble bridle. Their habit in this respect,—a habit which Mr. Landor has adopted,—will frequently lead to obscurity, unless great care be taken to avoid it by a skilful dove-tailing together of the several parts. 'Gebir,' as he informs us, was reduced before publication to half the length at which it was originally written. In making reductions an author does not always observe when the meaning which still stands clear in his own mind, and which was originally impressed with equal clearness on his work, has been allowed to slip from before the eye of a reader. It is not, however, in Mr. Landor's narrative only that we complain of obscurity. Several of the meditative passages in 'Gebir' not only refuse to give up their whole meaning on a first reading, (for to thus much we should not object when occasioned by depth of thought), but remain even after much reflection more or less equivocal. We may cite as instances the passage in which the analogy between fear and love is pointed out (book iv. line 20.); and, though in a less degree, a passage on despondency (book vi. p. 84.).

In Mr. Landor's minor poems the fault we have named proceeds chiefly from an extreme condensation of language, from a certain degree of mannerism, apparently the unconscious result of classical associations, and perhaps from that elaborate refinement, which, in adding one grace more to a fine passage, sometimes mars its effect by a sacrifice of simplicity. Still more often, no doubt, it is produced by excessive subtlety, both of thought and of sentiment. To avert such obscurity is one of the functions of strong poetic sympathy, which should ever be included among a poet's attributes. A poet should write for the many, while he thinks for the few; and should be charitable enough to sympathise as warmly with the stupidity of the dullest reader, as he would wish an apprehensive reader to sympathise with his highest flights. Care in such a matter is not thrown away. How much, for instance, does not the nobly-written poem addressed 'to Corinth' suffer from the obscurity of the

last line in the following passage? The flight of Medea is spoken of,—she has just hurled her two children from the fiery car, and the perfidious father bends over their dead bodies,—

> 'Warm, soft, motionless,
> As flowers in stillest noon before the sun,
> They lie three paces from him: such they lie
> As when he left them sleeping side by side,
> A mother's arm round each, a mother's cheeks
> Between them, flusht with happiness and love.
> He was more changed than they were, doomed to show
> Thee and the stranger, how defaced and scarr'd
> Grief hunts us down the precipice of years,
> And whom the faithless prey upon the last.'

Among the later of Mr. Landor's poems are many of his best: others among them are inferior in vividness and energy to his 'Gebir.' 'The last of Ulysses,' for instance, seems to us comparatively relaxed in tone; an effect produced in part by the circumstance that the metre is less braced, the pause being often thrown into the earlier part of the line, while the final word is also less frequently emphatic. A similar metrical change took place in Milton's later blank verse as compared with his earlier. In conjunction with another, though perhaps unintentional alteration, the diminished frequency of vowelled alliterations, (the ear of the blind bard grasping apparently the amplest combinations of sounds,) this change contributed much no doubt to the variety and the stateliness of his versification. The perfection of blank verse consists, however, in its adaptation to its theme; and in Mr. Landor's narratives we enjoy most the metre that rushes past us in a smooth though rapid stream.

To return to the less captious part of our critical task. It is in Mr. Landor's minor poems that we find most abundantly that delicacy, propriety, sweetness, and concise precision, which so eminently distinguish his poetry, and remind us of the Greek anthology. Among many such poems it is difficult to make a selection. The following, however, may serve:—

> 'Ianthe! you are call'd to cross the sea!
> A path forbidden *me!*
> Remember, while the Sun his blessing sheds
> Upon the mountain-heads,
> How often we have watcht him laying down
> His brow, and dropt our own
> Against each other's, and how faint and short
> And sliding the support!
> What will succeed it now? Mine is unblest,
> Ianthe! nor will rest
> But on the very thought that swells with pain.
> O bid me hope again!

O give me back what Earth, what (without you),
Not Heaven itself can do,
One of the golden days that we have past;
And let it be my last!
Or else the gift would be, however sweet,
Fragile and incomplete.'

Mr. Landor seems to turn with aversion from many forms of composition to which recent poetry has habituated us. A ballad is not to be found among his works; nor a didactic poem; nor a sonnet; nor, we might say, a song, using the term in its stricter sense. The temperament of his poetry, buoyant at once and serene, lacks apparently that vehement excitability which precipitates itself into fragmentary snatches of music, such as the songs of our early dramatists. Among his poems, on the other hand, we find many species with which we are familiarised in ancient poetry. The Idyl, especially that larger and graver kind for which, in his Latin volume, he claims the title of 'Idyllia 'Heroica,' appears to be his favourite; but he is also attached to the elegiac commemoration, to the brief but pregnant inscription, and to the epigram, especially to that species of epigram which embodies poetry not wit, and which can dispense with a sting in the last line. These poems are frequently marked by a playful tenderness, and as often by a tender pathos. Of the latter species the following may be taken as specimens:—

'Mild is the parting year, and sweet
The odour of the falling spray;
Life passes on more rudely fleet,
And balmless is its closing day.
I wait its close, I court its gloom,
But mourn that never must there fall,
Or on my breast or on my tomb,
The tear that would have sooth'd it all.'

In the following there is an Epicurean view of mournfulness:—

'The place where soon I think to lie,
In its old creviced nook hard by
Rears many a weed:
If parties bring you there, will you
Drop slily in a grain or two
Of wall-flower seed?
I shall not see it, and (too sure)
I shall not ever hear that your
Light step was there:
But the rich odour some fine day
Will, what I cannot do, repay
That little care.'

We find also many examples of the brief Horatian Ode, as distinguished from the Pindaric triumphant chaunt, the mythic hymn, or the choral ode. We might name as instances the graceful stanzas beginning

'To write as your sweet mother does;'

or the yet more beautiful poem in the 'Pericles and Aspasia,' supposed to be addressed by Corinna to her native city, Tanagra.

The unobtrusiveness of true poetry, a quality not sufficiently valued and but infrequently exemplified of late, is among the higher characteristics of Mr. Landor's. He is wholly free from exaggeration, and he never transgresses the Delphic precept, Μηδὲν ἄγαν, 'not too much of anything.' Nothing is inserted for effect; and his best passages, contented often to lurk in shadow, are never rendered more salient by a sprinkling of 'barbaric pearl and gold.' Thus, in his pages, heroism never struts, and sorrow never wails. Seldom, indeed, has fine poetry more ascetically renounced finery, or passion more religiously abstained from bluster. It is these qualities which impart to his verse that gentlemanly character which is observed to belong to it. Unobtrusiveness is not, however, likely to conduce to the popularity of a poet in these days. An object must sparkle to catch immediate attention when seen through the dust of the thoroughfare; and in the press and crush of modern literature, the thought which is not forward to claim a place, is likely to wait long without one. The music which is music only will be heard but in the still gallery or lonely grove; while the louder instrument, that sounds of wood and wire also, flings its noisy peal across the clamour of the throng.

Mr. Landor's poetry has not been popular. Warmly as the admiration of not a few among our first poets as well as scholars has been expressed with regard to it, that sentiment has not, as yet, made its way to the mass of readers. From our remarks upon that poetry, it may not unreasonably be inferred that the absence of popularity has proceeded from the peculiar character at once of its merits and of its defects. Refinement, grace, and condensed thought are not the qualities which most immediately recommend themselves to the public; and, on the other hand, there are few faults which a reader finds it more difficult to forgive than that obscurity which makes him discontented with himself as well as with the author. Mr. Landor's prose works also have in some measure merged his poetical in his literary fame, representing, as they do, a larger portion of his mind, and embodying the stronger, though not the higher part of his genius. When, however, we are asked how far time is likely

to confirm or to modify the present estimate of his poetry, and to bring his volumes from the library-table to the garden-bench, we cannot but remember that at all times popularity depends in no small measure on other things besides the merits of the poetry in question. In the case of real merit, we believe that the testimony of time will be always true, and its judgment just; but it no more follows that popularity, properly so called, will attach itself, even in time, to all works of genuine worth, than that an immediate popularity proves the absence of that genius which can stand the test of time. There are two contrasted orders of original genius in the world; and while one of these remains fixed in isolation, or fastens its regard on some remote period, drawing inspiration thence alone, the other dwells in the present, as in its native home, without any ignoble concession, and in interpreting the present points to the future. Genius, even of the latter sort, will not, indeed, soon be adequately appreciated; or rather, it is the attribute of the highest genius as well as of the highest beauty, moral or physical, that it 'never can be wholly known;' but it can hardly wait long for a reception to a certain extent in the sympathies of men, since it throws open for many a heart its inmost chamber, and utters for multitudes what they vainly wished to say. Genius in harmony with the age, like that of Shakspeare and Burns, leaps at once to a Nation's heart: whence, ascending upwards, it makes its way to the minds which, sooner or later, direct the intelligence of the many, and to which the public looks at last for the grounds of its poetical beliefs. Genius of an order more remote and alien is tried by time, is separated, in proportion as it is sifted, from all occasional dross and stubble, is recognised by the few, is passed on to the many, and by them is received in fulness of days with pride, if not with cordial enjoyment, as a part of their inheritance.

We have already remarked that Mr. Landor's genius, not only does not sympathise with the present age, but has been, from first to last, in ardent sympathy with the imaginative and social associations of a remote era. To the Ideal as distinguished from the National school of English poetry, his poetry belongs exclusively and without admixture, being in this respect homogeneous. The question, then, as to his future popularity is part of a much larger inquiry. It is this: Do the poets of antiquity obtain the popular sympathies of our countrymen, or must we admit that they lived in the hearts of those only for whom, and among whom, they wrote, and that they can but delight the imagination of the studious at this distant day? The latter we believe to be the truth. Homer is an exception,

—for his genius, like that of Shakspeare, was universal: but the other great poets of antiquity, however religiously our 'reading 'public' may revere them, as being of the orthodox creed, are yet the objects of a worship in which there is more of fear than of love, and more of tradition than of devotion. We set up their images in the high places of our mind, as in our streets we elevate the statues of great men on the top of pillars; but in each case the equivocal compliment renders the features of those thus honoured indistinguishable; and a passer-by might insinuate that we only desired to put Greatness civilly out of our way. A more charitable interpretation of the fact may, perhaps, lead us to a deeper truth. The insensibility of the many to that high poetry, the spirit of which is alien to that of the age, may proceed, not from egotism or dulness merely, but from the truthfulness of human sympathies and the grave appeals of poetry itself. It may be a lesson, teaching us that poetry does not merely spring from high-wrought phantasies; but that, as an emanation from man's total being, in its most popular form, it is a practical thing, rooted in realities, embodying the complete mind of a nation, and corresponding with the estimate formed by that nation on every important subject,— religion, philosophy, politics, nature, art, science—as well as with its morals and manners. We have already seen how closely allied Greek poetry was to the Greek idea of nature, and to a Pantheistic worship. In further illustration of the subject, we shall hazard a few remarks on the connexion between that poetry and some other characteristics of Greek mind and society.

The main characteristic unquestionably of Greek poetry was its embodiment of Beauty; and the attribute which gave expression to its every gesture was Grace. These qualities it marvellously united with a plain masculine strength, equably developed and exercised without violent effort. It was lofty without being aspiring, and firmly seated from the breadth, not the depth, of its foundation. It ascended into no pinnacles, and descended into no crypts, but extended its solid lines level with ordinary apprehensions, though in proportions so fine that while many recognised the effect, few could trace it to its cause. Absolute perfection in the treatment of its theme was the artistic aim of Greek poetry: for this reason the same historical record or religious mythus afforded a subject to poet after poet. It did not, for the sake of variety, affect a complex intermixture of human interests and sensibilities. From whatever was intricate, evanescent, or shadowy, it revolted as inconsistent with simplicity in all subjects, and with grandeur in subjects of an elevated character. Above all, Greek poetry, except in the case of tra-

gedy, excluded the mysterious. Its nymph-like muse was not to take her stand among the Caryatides; and the Temple's projecting cornice was neither to depress nor to overshadow that face radiant even in its stillness—

> 'Fit countenance for the soul of primal truth,
> The bland composure of eternal youth.'

The art of Song was part of the art of Life, and that art turned away from all perplexing problems. In shrinking from the painful Greek poetry lost the profound, and in abjuring the mysterious it missed the spiritual likewise. It possesses on the other hand its compensating advantages; the crown of its excellence consisting in that sustained majesty which can only stand palpably out where solidity of material is united with perfect proportions in a structure neither too vast to be comprehended by the eye, nor too complex to be understood by it at a glance.

It is hardly necessary to remark in detail on the degree in which these characteristics are to be found in the other Greek Arts. Greek music we know relied mainly upon melody not harmony, the former satisfying the mind by the completeness and symmetrical arrangement of a definite series of sounds, while the latter stimulates it to seek analogies in a world without limits. The resemblance between Greek poetry and Greek architecture,—the latter extending its level lines over the solid ground, which the perpendicular Gothic spurns in heavenward aspiration,—has been so often insisted on, that we need not further allude to it. For the same reason, we abstain from any comment on the analogy between Greek poetry and Greek sculpture. We may, however, observe that that analogy is attested and illustrated by the fact that the distinguishing characteristics of Greek sculpture—its ideality, its serenity, its unity, its distinct embodiment of a beautiful idea, detached from all accessories, and dependent upon no associations of time, place, or circumstance,—disappeared in the sculpture of the Middle Ages, when the latter asserted a native character of its own. As a proof, we might refer to the Moses of Michael Angelo, to the monuments of the Medicean mausoleum in the church of San Lorenzo, and to much of that early ecclesiastical sculpture, the spirit of which, despite the stubborn material, obviously tends to the picturesque, not the antique. The paintings of the ancients conversely were strictly congenial with their sculpture, as we may infer from the descriptions of them which have come down to us, as well as from the qualities for which they were especially admired. The frescoes disinterred at Pompeii and elsewhere, though in point of execution very imperfect spe-

cimens of ancient painting, are yet sufficient to exhibit its spirit. What that art expressed was Beauty perfect in a finite mould, and a pleasurable sense of healthful life, sometimes contrasted with, but more often united to that majestic forbearance and chaste reserve which the Graces themselves ordain. Greek painting illustrated but the simpler of the affections, forcibly and delicately as it illustrated them. Its compass was narrow; and neither in sentiment nor in composition did it seek after various or ample combinations. It differed from sculpture but little except in its superior vivacity. In other respects, comparing the livelier with the austerer art, one might have imagined that the notes of some lyre, potent as that of Amphion, had dissolved the immovability of the marble, and commanded the still Relief to float along the frescoed wall or enwreathe the encaustic vase. How opposite in character is the painting of the Middle Ages, so devoutly domiciled in a region of spiritual aspirations and spiritualised affections! Even when it fell from its first estate, how marvellously transformed, under its influences, is the ancient mythology itself! We recollect but one complete exception. In the Idyl pictures of Nicolo Poussin we find the true genius of antiquity; — the exuberant life, the beauty not lost even in Bacchanal riot, the vehement appetite, oppressed by no 'dishonest shame,' but unelevated by the 'seriousness 'of passion;' while, amid the rout, a blameless and buoyant Humanity steps forward, like a new-born Goddess, over the subject waves of the revelry, — unparticipant of, and not desiring, the gift and burden of a spiritual life.

The analogy between Greek poetry and the other Arts is scarcely more intimate than that between the same poetry and the metaphysics and politics of Greece. One of our best scholars* has remarked, perhaps quaintly, upon the difference between our philosophic term 'understanding,' and the corresponding Greek word ἐπιστημη, the first syllable of which means, not *under*, but *upon*. It is thus, he subtly concludes, that modern intelligence confesses that the region of its knowledge is above it; while the Greek mind looks down, as it were, upon a world of conquered thought. We need hardly suggest how closely this intellectual habit corresponded with the character we have ascribed to Greek poetry, which treated of nothing that it could not master, and owed half its grace to the fact that, like children, it never felt the weight of its own body — which never wandered into any scenes but what it could contemplate as from a height, — and whose view of things was but little shadowed by that faculty

* 'Guesses at Truth.'

which 'looks before and after.' The whole of the Greek mythology bears the same character of limitation united with congruity and systematic beauty. It accounts for all things by the expansion of one great hypothesis, embracing in its interwoven cycles and epicycles a single sphere of thought, though the largest, probably, and the most complete that ever issued, there or elsewhere, from uninspired humanity. Once more:—it has been noticed that Greek poetry, in its delineation of character and manners, was averse to the merely individual; tending to the generic, and seldom condescending to those minuter details of heart and hearth by which the peculiarities of personal character are marked. In this respect we must observe that in so doing it but corresponded with the polity of ancient communities, in which the individual was identified with the State, liberty itself meaning rather national independence than personal freedom. The largest affection which a Greek felt was that for his country; and the fortress-crowned acropolis which represented it was perhaps his most truly religious idea. He had heard of no 'abiding country' beyond his native soil, and of no 'City' of which all mankind are citizens. Neither had his personal nature been exalted by a Faith which, in making every man the representative of the Race, communicates to the individual being, and to those domestic relations in which eternal ties are emblemed, a worth otherwise not theirs.

It is, however, in the department of Greek ethics and morals that we shall discover the most authentic traces of Greek poetry. The noblest moral conception of the Greek mind was that of Justice. Justice accordingly, in the form of just Retribution, was the great idea which inspired Greek tragedy. No corresponding conception, however, then existed of a Mercy and Love, strong as Justice itself, and neither mastered by, nor superseding it. The moral poetry of the Greeks, for this reason, is marked by a character of severity. Their Elysian fields are more remote than the kingdom which Rhadamanthus judges; and even in them the shade of Achilles rejects homage as a mockery, and declares that it is better to labour as a slave in the upper air 'than rule, the sceptred monarch of the dead.' The practical idea of Virtue with the Greeks consisted mainly in the becoming, the seemly, the fit: the *το ἀγαθον* meant the *το καλον* and the *το πρεπον*; and the moral taste, rather than the conscience, was the arbiter of it. In harmony with such sentiments was the fine balance of their poetry, which admitted nothing overstrained or disorderly. That Moderation so highly extolled in the Grecian philosophy presided with them over every art: and, as in Plato's 'Banquet' the guests begin by discussing whether

they are to drink to intoxication, or for the sake of pleasure merely, so in every intellectual feast likewise the 'law of not too 'much' was deemed the limit of rational enjoyment. Against excess, even of the noblest sort, their canons of taste were inflexibly severe; and Æschylus narrowly escaped banishment because one of his tragedies had excited the feelings of the spectators over-vehemently.

How different from such a conception of Virtue was that high idea, of a maturer time, which, though including, yet superseded it! How many of those attributes illustrated in the pictures and the chivalrous and religious poetry of the Middle Ages (not to appeal here to graver authorities) could possibly have been rendered even intelligible to a Greek? What, for instance, would he have thought of religious Zeal, and of the enterprise of the missionary? Not believing in any revelation of objective truth, he could hardly (however useful and auspicious religious worship might have seemed to him) have regarded it as a duty to maintain and to propagate a Faith. To the sceptic, indifferentism must necessarily have seemed to be both charity and common sense; and the heroism of the chiefs who sailed in search of the Golden Fleece must appear to him far more commendable than the self-devotion of St. Augustine and his monks voyaging in search of a barbarous race, and boldly claiming 'not theirs, 'but them.' Again, what would a Greek have thought of Obedience as a law of life? If he did not brand it as a want of spirit only worthy of Orientals and slaves, assuredly he would have seen little dignity in it. As incomprehensible to him would Humility have been. Wisdom is not likely to be humble in the absence of Revelation; for all its knowledge has been found in its own stores, or gleaned by its own hands: and Virtue must needs walk proudly where, except the strength that is in itself, it sees none. The Homeric heroes always praise themselves; and the whole Greek race vaunted, not only of its achievements as a race, but of man's physical position in creation; boasting that it was 'articulate-'speaking,' and 'horse-taming,' and that it compelled the earth (though a Goddess) to give forth her fruits. Revelation, meantime, like the Copernican System of the Universe, translated man from a finite to an infinite region. It has shown him at once his actual littleness and his potential greatness, and accordingly has taught him that true magnanimity consists not in self-assertion, but in self-renunciation and self-oblivion. Heroism, in ancient song, always seeks and finds a present reward of fame, if not of success. Men were called 'godlike' where God was not known. Hence, the heroes of the ancient world shine

like the stars by night: the saints of the Christian Church, buried in a light greater than their own, glimmer like tapers by day, or are clustered together like the dimly seen luminaries of a nebula. Glory itself does not necessarily minister to pride: it may unite, not separate; rendering greatness not *dis*tinguished, but *con*spicuous. In the great Christian poem of the Middle Ages a thousand crusading Spirits form but a single halo, projected, in shape a cross, against that ruddy sphere, — their celestial home. Fifteen hundred years had passed away before a modified Tragedy revived, and man was again bidden to gaze in wonder upon individual man.

The Greek estimate of human Well-being accorded justly with such an idea of Virtue. The celebrated adage, 'Mens sana in 'corpore sano,' might well describe it. Such an estimate necessarily repudiates the austerity of self-denial as much as the lawless gratification of the passions. It does not aspire to bring the body under: it wishes, simply, that body and soul should live amicably together, neither of them a tyrant, and neither of them subjugated. It does not believe that by renouncing the lower gratifications, which a fallen nature can hardly use freely without abusing, a larger participation may be obtained of higher joys. Mortification it counts an Indian extravagance; and vigil it leaves to the priestess of Diana, solitary beneath the stars, in her rock-built tower. Regarding the body not as the temple of a spirit, but as the most beautiful and vigorous of instruments, it places a proportionate value upon wealth; and even the religious Pindar, extolling the objects of his respect, celebrates them as 'good and rich,'—a mark of their being dear to the gods. Greek poetry corresponded, by necessity, with Pagan, not Christian, beatitudes. It never recorded the blessedness of those who mourn, the inward abundance of the poor, or the large fruition of terrestrial things extended, by Nature as well as by Grace, to those meek spirits who can enjoy without possessing. It commemorated sometimes the constancy of the martyr, counting as such those who sacrificed their lives in a righteous cause, but never their triumphant death-beds. It flung upon the grave the chaplets of a pensive fancy; but the grave returned no vernal symbols of immortality with which the shrines of religion were to be decked. Yet it did what it could. It embalmed the memory of the brave; and in its breeze of martial music it carried the patriot band to the frontier. It harmonised the rural dance, and added order to the village festival. It caused a sad hour to be forgotten an hour sooner than it would otherwise have been, and a glad moment to be remembered an age later. Its matutinal feet were hurried

by no attraction to the angel-haunted tomb; but it polished the funeral urn, and it encompassed the sarcophagus with laughing nymphs.

As Greek religion consisted chiefly in the worship of visible Nature embodied in human forms, and generally in the deification of Humanity, so, in Greek ethics, Inhumanity was the chief, if not the only grave offence. Whatever sprang from that root the Greeks abhorred. Cruelty and tyranny they would have no dealings with: sins of another sort they regarded with an indulgent eye. For this reason, in the intercourse of daily life, though they affected not the magnanimous urbanity of the aristocratic Romans, a friendly address and graceful bearing were regarded as a part of good morals. The same character belongs to all their arts. Their poetry is by nothing more characterised than by its cordiality, its communicativeness, and its pleasant aspect. It recoils from the rude, the boisterous, and the insolent, as from a species of blasphemy; and satire it leaves to Thersites. But what if a poet born later—he, let us suppose, who saw the Triple Vision—could have conversed with a brother bard of Greece, and spoken to him of a Divine awe compared with which all human respect is dwarfed and brought low? What if he had told him that the temple gates all over the world had been shaken open in one night, and that the people had been bidden to enter where once the priest only stood? What if he had spoken of virtues in conformity with an elevation at once so high and so perilous,—of a revealed infinitude of light and of darkness, of bliss and bale,—of such duties as Contemplation and Purity, Aspiration and Compunction,—of eloquent lips locked close, and of curiosity repressed? The Greek bard would have called his companion a Visionary, and advised him to exchange Eleusis for Epidaurus as a place of sojourn. In other words, he would have been repelled by the 'Divina Commedia.' The same principles and instincts which consigned him to a moral system concerned with outward acts, not with affections and motives, would have attached him to a poetry material and objective. Of the merits which belong to a more spiritual poetry he must, with all his keen insight and various knowledge, have remained 'invincibly ignorant.' The converse of this will be equally true. As little can classical poetry be expected to come home to the popular sympathies of a later age. There will always be exceptions: but how have the exceptions been regarded? What do modern politicians think of enthusiasts who bring from school or college an admiration of the institutions of Greece and Rome? or, how do religious philosophers explain 'the aver-'sion of men of taste for evangelical religion?'

And should this circumstance, it will be asked, be regretted? Are we, it may be demanded, whose lot has been cast in the fulness of the times, to return to our morning dreams? Should we prefer to the choral vesper chaunt of creation the early and slender trill of a bird but half awakened? Ministered to by the powers of the unseen world, must we wander in retrograde imagination to groves and fountains haunted by divinities which the objectless heart created 'after its own image?' Encompassed with the more excellent glory of an abiding vision, which embraces our sphere of space and time as with a spiritual zodiac, must we search for that herb which opened the eyes of Glaucus, and sigh for the credulities which discerned wonders in every floating cloud or misty rock? Begirt by, nay, a part of, Realities which, if seen in the clear light vouchsafed to the pure in heart, outshine all poetic conceptions, and, if they but loom around us,—re-absorbed into gloom, or half eclipsed by the shadow of our own terrestrial nature,—ought, by their awfulness, to quell the poetic spirit, shall we endeavour, with idle industry, to shut out great things with decorated trifles, and to hide behind a veil of radiant fancies the countenances of Life and Death? What part have we with Gods and Goddesses? What commerce can there be between Paganism and the race of the Baptized?—Far be it from us to make light of the momentous truth involved in such questions. If we abstain from insisting upon it, it is only because such high matter, though allied with, is distinct from our humbler theme, and cannot worthily be illustrated in connexion with it. Moreover, this question also, considered practically and with reference to our subject, has another side to it. It was, indeed, as we have remarked, the indirect influence of Christianity chiefly which, widening and elevating the moral nature of man, introduced into his imagination a spirit antagonistic to Pagan conceptions, and laid the foundation of modern arts and of modern life. So large a change in public sentiment is irrevocable, involving, as it does, the destruction of those associations which are the conductors of popular and poetic sympathies: but it does not follow, we fear, that the continued alienation of popular sympathies from classical themes proceeds from the same high cause by which it was originally produced. The Arts of the Middle Ages soared above Paganism: the Imaginative Mind of modern times stands for the most part aloof from it; but it stands aloof from Christianity also. Secularity is its prevailing character: while, even in Paganism there was a spiritual element. We may not, without a risk of insincerity and presumption, indulge in either an exultation or a regret higher than corresponds with our low position. Can we with truth say that the portion of our modern lite-

rature which reverts to ancient mythology is less religious than the rest? Is it not, in the case of some authors, the only portion which has any relations, even through type or symbol, with religious ideas? In the case of religious poets, is it always the least religious portion of their works? Would Danté, would even Milton, have found more to sympathise with in the average of modern literature than in Homer or in Sophocles, in Wordsworth's 'Laodamia,' or Keats's 'Hymn to 'Pan'? What proportion of our late poetry is Christian either in spirit or in subject,—nay, in traditions and associations? Admirable as much of it is, it is not for its exalted nature, that it can be commended. Commonly it shares the material character of our age, and smells of the earth; at other times, recoiling from the sordid, it flies into the fantastic. As our modern metaphysics, with no character of its own, hunts up the trails of innumerable philosophies gone by, like a dog questing after its master, so our modern poetry has sought wild adventure and strange experience in the spirit rather of the *ennuié* than of the knight-errant, but has seldom lighted on any authentic image of the heroic or the religious. It is our life which is to be blamed: our poetry has been but the reflection of that life. The dust of worldly business, like the ashes of worldly pleasures, is not holier in Christian than in Pagan times. It is not the least religious of our poets who exclaims,—

> 'I'd rather be
> A pagan suckled in a creed outworn,
> So might I, standing on this pleasant lea,
> Have glimpses that would make me less forlorn;
> Have sight of Proteus rising o'er the sea,
> Or hear old Triton blow his wreathed horn.'

The sentiment is true, whether in verse or prose. It affirms but that Triton is better than Plutus; that the imagination has more of the spiritual about it than self-interest has; that the shepherd, watching the distant foam from his green pasture, is likely to be greeted with higher visitations than the merchant who hurries to the sea side but to inspect his bill of lading.

Nor can it with truth be asserted that Greek poetry was only an art intended to minister to enjoyment. Nothing with so low an aim would conduce to the permanent enjoyment of a rational and moral being. Founded, as we have observed, on the idea of Justice, and faithfully adhering to the rules of the 'Fit,' Greek poetry might almost claim to have celebrated, if not the 'beauty of holiness,' at least the beauty of virtue; for the beauty which it embodied shone ever in the light of purity, and whatever corrupts or depraves fell from it as raindrops from the myrtle leaf. It reverenced the affections, (and chiefly the

parental), friendship, the rites of hospitality, the pausing foot of age, the claims of country, the sanctions of religion. In Andromache it saw every domestic tie imaged and united in the central bond of marriage; in Iphigenia it sacrificed life to duty and a parent's will; in Antigonè it was faithful to the dead, and revered the unwritten law more than the laws of men. In Homer it expanded itself in genial sympathy with all human and social relations: with Sophocles and Pindar it elevated those relations, musing on a holier sanctuary than Colonos, and pointing to an Olympic course of which Gods not men were the spectators. Even in its lighter mood, inspired as might seem simply with the joy of life itself, it was not more the voice of gladness, than, if rightly interpreted, the acclaim of gratitude; singing in the ear of Nature her own ceaseless praises, and thanking her, not amiss, for her liberal grace. Greek poetry could not have included in it so high a character, if Greek theology and Greek philosophy had not contained, implicitly or explicitly, an element of greatness and truth. Such was the fact. The Platonic philosophy was, be it remembered, the chief secondary cause of the diffusion of Christianity, doing for it more than the gift of Constantine could ever have done: and if Plato expelled the poets from his ideal commonwealth,—a commonwealth very different from that which he would even have attempted to realise, — it was because he himself, the 'greatest 'fabler of the State,' could tolerate for the discipline of youth no song that Urania herself had not inspired. Truth, yet more elevated, lurked under the symbolic veil of Greek theology. It was the father of Inductive philosophy, who, in his 'Wisdom 'of the Ancients,' set forth the hidden meaning of mythological fable, and asserted that it contained, although but in broken fragments scattered abroad 'like unto the limbs of Orpheus,' no small portion of divine truth; thus inheriting at once and vindicating the ancient opinion that the gentile world had not been left wholly without inspiration,—that it was visited by streams, running long under ground, but derived from sacred sources,—that some beams of a better light were refracted, before sunrise, into its murkier air.

Hardly, indeed, could it have been otherwise. If that Fall which depraved the Will, and subverted the order of man's moral being, had left behind it no 'mens divinior,' dimmed, not obliterated, there would have remained no faculty by which the better light, when vouchsafed, could have been recognised, and no hand by which the priceless gift could have been received. That 'mens divinior' is the great inspirer of poetry. True poetry has ever a substratum of Religion in it, either pointing towards a Faith not yet revealed, or surviving a

Faith flourishing with wild luxuriance on the soil in which that Faith has been interred. Poetry is the vital religion of Nature, and as such, though it may walk in devious ways, its eyes, at least, must be raised to something above Nature. Nature itself was the first revelation made to man, and was necessarily made congruous with that higher revelation destined from the first not to supersede, but to redeem, to harmonise, and to complete it. Where, as in Greece, there existed most of that insight which fathoms her secret meanings, and of that creative mind which interprets hints, human intelligence caught most frequent glimpses of that higher system, proportioned to nature as the building is proportioned to the foundation. Such as the heart of man was, such were the songs that lifted it up: and it is as such that they retain a moral significance for all time. We would not indeed 'divide the crown' between Cecilia and old Timotheus; yet we may reflect that the instrument which in later times shook the Christian temples with awe, or thrilled with the secret of a hushed and subdued pathos the sanctuary itself, bore yet in its glorious aspect and manifold organisation, no small analogy to the simple reed-pipe of the Arcadian divinity as well as of the shepherd watching his flock by night.

The analogy between the Greek mythology and the true religion which in interpreting it abolished it, (as Judaism was abolished by its own fulfilment), reminds us of a legend, which may be new to some of our readers, though perhaps not less authentic than many traditions which belong apparently to the same age:—'That voice which, crying aloud unto Thammus, the 'Greek pilot, (when on the night of our Lord's most bitter pas-'sion, he voyaged past the island of Paxo,) bewailed that "the '"great God Pan is dead," did not more plainly declare the 'dissolution of Paynim darkness than did the vision of Parmenio, 'priest of Lycian Apollo, when Polycarp sat yet at Smyrna. 'For Parmenio, after his conversion, did confess that as, after 'sacrifice, he slumbered in the temple (which was a wonder 'of the world), the pillar against which his head leaned, waxed 'ever taller, and also slenderer as it rose. And, he gazing 'around, the other pillars waxed in height likewise, and in thin-'ness became as reeds; and many of them stood together for 'support. And the wall also ascended (as the cloud that 'riseth past the cliff); and the roof was lifted up; and the stone 'that stretcheth from pillar to pillar, and the stone that com-'passeth the building, raised themselves up in arches, like unto 'the hands of the priest when he lifteth them in prayer, and did 'sustain the roof. Moreover, the heads of the pillars, adorned 'with Asian phantasies, did sprout, like the rod of Aaron, and 'ran along the roof in traceries as a vine. The temple also

'grew longer than an Egyptian colonnade; and in the walls 'thereof there opened out great grots and caves, wherein stood 'in trance, kings, and prophets, and virgins, and martyrs in-'carnadine with the blood of their passion, and holding, every 'one, lily or palm. And from the altar went forth thunderings 'and lightnings which burned to ashes the chaplets and the 'offerings, and the statue of Oracular Apollo. And by four 'gates there entered into the temple, from the four corners of 'the earth, an innumerable company; and with their psalm, 'which they sang, the temple was shaken as it would ascend into 'heaven. And Parmenio heard a loud cry of Spirits, which 'wept in the words of the sad poet, Virgilius Maro (that de-'cended to the Shades), and said, "We truly did build, but not '"for ourselves:" and another voice answered to them again, 'and said, "Since God hath destroyed your work."'—For the word 'destroyed,' in the last sentence, might not the word 'assumed' be substituted, without injury to faith or morals?

ART. V.—1. *Polynesia* (*Edinburgh Cabinet Library*). By the Right Reverend M. RUSSELL, LL. D. and D. C. L. Edinburgh: 1842.

2. *A Narrative of Missionary Enterprises in the South Sea Islands.* By the Reverend JOHN WILLIAMS, of the London Missionary Society. London: 1840.

3. *History of the Hawaiian or Sandwich Islands.* By JAMES JACKSON JARVES. London: 1843.

4. *Travels in New Zealand.* By ERNST DIEFFENBACH, M. D. London: 1843.

5. *Lawry's Visit to the Friendly and Feejee Islands.* London: 1850.

THE Isles of the Pacific, from the Malay peninsula to the western coast of America, are inhabited by two races of human beings,—the one approaching to the negro, in its general physical characteristics, the other more closely allied to the people of the Asiatic Continent. The first is usually called the Papuan or Austral-negro race, the last the Polynesian. Although their languages are mingled, and contain many striking resemblances in certain localities, and may owe their origin to a common parent*, yet, in their present condition,

* In Dr. Latham's opinion, the ethnological break between the race common to the Indian Archipelago and Polynesia, and the race of New Guinea, &c., is so distinct, that he supposes the population of

the races are very distinguishable. A line drawn from the most northern island of the Hawaiian group (Kauai, Atooi of Cook) to the most western point of New Zealand, passing to the eastward of the Feejees, will separate the Papuan (to the westward) from the Polynesian tribes. Not that either race will be found in exclusive occupation of any one of the islands. Even in the Marquesas, and perhaps in Easter Island, the most remote from the main seat of the Papuan race, some traces of its presence are discernible; whilst, not only in the Feejees and other islands near the dividing line, but as far to the west as Madagascar, the Polynesian features and tongue may be traced, — many of the permanent characteristics of a country, such as its bays and headlands, having Polynesian names, or names of cognate origin. Nearer to our arbitrary line, however, as, for instance, in the Feejees, the New Hebrides, and New Zealand, the two races will be found in closest contact. On the west side of the line there is a marked predominance of the Papuans, whilst on the east side the prevailing race is essentially Polynesian. In New Zealand, although the flat nose, thick features, and curled hair are common enough, yet the language is purely Polynesian. This language is spoken from the Sandwich Islands to New Zealand, a distance of seventy degrees of latitude, and from Tongatapa to Easter Island, a distance of sixty degrees of longitude, with not more dialectic variance than exists even in the prevailing language of Great Britain.

It is no part of our design to describe minutely this interesting people, still less to treat of their peculiar and evidently very ancient language. The works at the head of this article contain copious information on all that relates to the Polynesian race. We desire only to engage the reader's attention to a few observations respecting what must be deemed at present the most prominent feature in its condition, — that is, its great and still rapid decrease.

Polynesia Proper, instead of following the line of geographical continuity from the mainland, to have arrived by way of what he calls Micronesia, from the Philippines by the Carolines to the Navigator's Islands. In answer to the question — 'From what country of Asia 'did the Polynesians spring?' Sir G. Simpson answers, 'Almost to 'a moral certainty from some point or points, between the southern 'extremity of Malacca, and the northern limits of Japan.' (*Journey round the World;* a most interesting book.) Supposing the whole Polynesian race to have so strong a tincture of Malay blood in it as to be properly called Malayo-Polynesian, yet the causes of the superiority of the New Zealand and Sandwich branch over the others, their industrial habits and aptitude for civilisation, will still remain a distinct inquiry.

We do not pretend that the Polynesians alone, of all savage people, exhibit this feature as the actual normal condition of their race. The North American Indians are rapidly vanishing from the face of the earth; but they were, and such as remain still are, a race of hunters, who, continually retiring before the march of colonisation, find their hunting-grounds (their only means of subsistence) continually narrowing. In some cases they made a stand against the intruding race; but their fierce courage and peculiar mode of warfare were no match for the superior resources of the invaders. Every throe of resistance has only hastened their destruction; often in spite of sincere efforts to save on the part of those who found themselves compelled to destroy. Again, the aboriginal inhabitants of Van Diemen's Land, once numerous, have entirely disappeared; and the same race in the other Australian colonies is also fast retiring or passing away. The case of these unfortunate people, however, presents no mystery. It is not too much to say, that extermination was the common rule. Wholesale butcheries are too well authenticated to admit of doubt; and the prevailing conduct of the settlers, free as well as convict, towards them, seems to show that they have been scarcely regarded as human beings.

The Polynesians have been subject to no such violent shocks. They never were hunters, except of their fellow-men; for nearly all the islands are destitute of indigenous mammalia. In the two islands of New Zealand, comprising a surface about equal to that of Great Britain, the only quadruped was the *Kiore*, a small marsupial rat, which has been destroyed by its Norwegian namesake. The Polynesians are, and always have been, systematic cultivators; the New Zealanders, and possibly others of the race, being even aware of the sexual wants of plants.* Moreover, although they may at times have suffered injury from invasion, their courage and ferocity, under the conduct of their great intelligence, have enabled them to take such vengeance, as was more than sufficient for the prevention of further wrong. It is also worthy of being recorded, to the credit of our countrymen, of those at least who have come into regular contact with them, that for many years past the Polynesians have been the objects of an active benevolence,—often ill-directed, no doubt, but,—remarkable as having generated, we may hope, an entirely new morality in relation to our intercourse with uncivilised races. The British Government,—wherever its authority has been esta-

* They reject the unprolific tubers in planting potatoes, calling them *tane* or males, and they impregnate their gourds and pumpkins with great care.

blished, as in New Zealand, or even where we have only quasi-diplomatic relations, by the residence of a consul, or the occasional visit of a man-of-war,—has exerted all its influence in favour of the native races. This, to use a homely phrase, has set the fashion to the Europeans visiting or dwelling among the Polynesians; and in New Zealand, where colonisation has been regular and systematic, the settlers, even down to the labouring classes, have, from first to last, in spite of a long course of provocation from the natives, exhibited very creditable sympathy and forbearance towards them.

That there are causes which tend to produce the decay, and, unless checked, the final extinction of the aborigines, and which operate alike upon the American Indians, the Australians, and the Polynesians, cannot be disputed. It is, however, capable of proof that the two former races have suffered directly and immediately, in consequence of the general treatment to which they have been subjected; whilst the latter are declining in spite of all possible pains being taken for their preservation. The prominent causes of the extinction of the American Indians, — namely, the narrowing of their hunting ground, and the use or abuse of ardent spirits,—have no place in the instance of the Polynesians; and yet the decrease of the latter is not much less observable than that of the former. In what manner is this to be accounted for? To what extent is it attributable to intercourse with Europeans, or to causes* existing antecedently to such intercourse? In any case, are the evils of their condition susceptible of remedy, or even of mitigation? or are they so deeply seated in their social constitution — so interwoven with the habits of the natives and Europeans respectively — as to render it probable that the process of extinction will go on more rapidly than that of any remedial measures we may be able to introduce, until all the efforts of the benevolent are proved to have been of no further avail, than to have smoothed the downward path of a doomed race?

These are questions which we cannot hope to answer completely and satisfactorily: our sources of information are at pre-

* In Mr. Saxe Bannister's 'Account of the Changes and Present 'Condition of the Population of New Zealand' (*Journal of Statistical Society*, Oct. 1838, p. 366.), the following causes of depopulation are quoted from a recent writer:—1. The wars from 1821 to 1830, which were occasioned by Strongi, who visited England. 2. Want of occupation, which prompts war. 3. Superstition, which forbids food being given to the sick, and so kills 'thousands.' 4. Bewitching kills 'thousands.' 5. The degraded state of the women, and polygamy. 6. Suicide. 7. Diseases.—*Polack.*

sent too scanty. Communication with Europeans, and the subversion or weakening of the ancient superstitions of the natives, are too recent, and are still in too transitional a state, to enable us to judge, with any certainty, of their ultimate effects. But we can indicate several particulars, as well in the habits of the natives as in the nature of our intercourse with them, which have operated, and are still operating, in a remarkable manner, upon their condition. And since many of the circumstances, especially those which are most unfavourable, admit of remedy or of mitigation, the subject is not merely a curious one: — the investigation may not be without its use.

The branch of the great Polynesian family with which we are best acquainted is that which inhabits the islands of New Zealand, called in their own language 'Maori,' or pure. The establishment of British authority there, and the progress of colonisation, place within the reach of our countrymen at least one 'blue book' annually, in which information respecting the native race occupies its full proportion. During the administration more particularly of Captain Grey, (now and since November, 1845, Governor of New Zealand,) the most full and minute reports upon the condition of the natives have been communicated to the Government at home; and our intercourse is at present carried on according to a preconcerted and systematic plan, having for its express objects the improvement and preservation of the native race, — by means, principally, of the gradual, but not forcible, substitution of our social institutions and arts of life in the place of their rude, barbarous, and often cruel customs. As an additional reason for drawing our facts and illustrations from New Zealand, it may be proper to state, that the writer of this paper enjoys the advantage of having been himself an eye-witness of much that he sets down. He has not only resided several years in New Zealand, but has been in frequent communication with some of the most zealous and intelligent of the missionaries and others, who have long dwelt, not only among the natives of that colony, but in various other islands of the Polynesian group.

The constantly diminishing number of the New Zealanders is a fact of which every resident in the country becomes sensible; yet it is one which has not yet been verified by any sufficient census. The missionaries, however, have collected from all parts of the country statements of the numbers of the several tribes at different times, and the sum total of these returns has gone on continually decreasing, as our means of correct information have improved. Previous to the establishment of British authority, the aggregate number of the natives was considered to be

near 120,000. In 1840 it was calculated by Dr. Dieffenbach at 114,800. Subsequent accounts have reduced it to 109,000; and it is the general impression of the missionaries, that an accurate census, if now taken, would exhibit a total somewhat, and perhaps even considerably, short of 100,000. Not one of these numbers is to be implicitly relied on; but as our acquaintance with the natives at present is much more advanced than it was ten years ago, the latest number is more likely to approximate to the truth than the earlier ones. It should also be remembered that errors in censuses usually consist of omissions, and not additions. Thus, if the errors be assumed to be greater in 1838 than in 1848, the earlier number would probably have to be increased in a far greater ratio than the last; and the actual decrease will consequently have been greater than the figures, which we have quoted, represent. Figures of this kind are, however, such poor authority, that a diminution in the population may be more safely inferred from the number of abandoned places of abode, or *kaingas*, throughout the country, and from the visible decline of those pahs and *kaingas* which come under the traveller's observation, after an interval of a few years, without any equivalent increase by migration elsewhere. The natives themselves are well aware of the falling off of population. They see the English grasses spreading over the fern-hills, unimpaired by the heavy tread of the cattle, which gradually destroys the less useful plants; and they draw analogies unfavourable to the prospects of their race.

In the case of the other islands, any thing approaching to trustworthy numeration is, of course, of even rarer occurrence than in the case of New Zealand. The only statement which pretends to accuracy and particularity is to be found in Jarves's 'Hawaiian History.'

'The following table,' he observes, 'will illustrate, in some 'degree, the decrease of population since the time of Cook. 'The census, as collected by the natives, is not much to be 'relied on, especially those of a few years back. In taking 'them it was, I suppose, only to get at the taxable polls; and 'great reluctance and deceit prevailed among the people, which 'prevented any positive accuracy: still, sufficient facts are 'established to show the general rate of decrease. Cook's vague 'estimate in 1779 made the population 400,000; but 300,000 'would have been nearer the truth.

A loose estimate for 1823 - - -	142,050
A census in 1832 - - - -	130,313
A census in 1836 - - - -	108,579'

Jarves, Appendix, p. 373.

'The census of this year (1840),' continues Mr. Jarves, 'is 'not accurately known; but the population of the group is 'estimated at upwards of 100,000, of whom 1000 are foreigners, 'and an equal number of half-breeds.'—*Ib.* 376.

According to the works placed at the head of the present paper, a similar falling off in the native population has taken place in most of the islands of the Polynesian group. There may be slight exceptions; but these we need not notice until we come to speak of the future prospects of the race in general.

Even to superficial observers, the most striking peculiarity in the population of New Zealand is the small number of women in proportion to men, and, also, as compared with Europeans, the very great deficiency of children of both sexes. Here, again, we have as yet no complete information, such as would be afforded by a census of the whole people; but we have returns of the population of certain districts between Wellington (Port Nicholson) and New Plymouth, collected by the missionaries; which we believe to be tolerably correct, and which will serve to establish, with sufficient precision, the ordinary proportions of women and children to adult males. These are as follows: —

1843.

	Men.	Women.	Boys.	Girls.
Waikanae - - -	394	235	115	97
Manawata - - -	312	243	141	96
Ranji Ukei - - -	204	148	46	26
Wanganui* - - -	1408	1172	364	299
Taranake - - -	920	645	195	121
	3138	2443	861	639

* A more careful census of the Wanganui tribes was taken in 1846. The numbers were nearly stationary, as compared with the census of 1843; but the proportion of women had slightly improved. As there were omissions in the census of 1843, and that of 1846 was taken individual by individual, there was probably a real decrease. Since then the outbreak at Wanganui has occurred, a very disastrous event probably for the native race; not that many have been killed in actual warfare, but they have suffered greatly from the privations of war, including scarcity of provisions. The two years' census compared: —

	Males.	Females.	Total.
1843 - - -	1772	1471	3243
1846 - - -	1739	1501	3240

	Males.	Females.	Total.
Adults - - - - -	3138	2443	5581
Children - - - - -	861	639	1500
	3999	3082	7081

It will be observed that this embraces only a small portion of the population,—about one fourteenth or one fifteenth (comprising the two islands); but it comprises a fair average of circumstances and a variety of localities. The returns are not drawn solely from a coast population, more or less closely in contact with Europeans. They exclude the more vicious and corrupt inhabitants of the towns; but include the population bordering on three rivers which extend far into the interior. A very careful census is now in progress under the guidance of the Bishop of New Zealand. At the commencement of 1848 it had extended over half the northern island, and contained an enumeration—family by family, and individual by individual—of about 40,000 persons. We have been informed that the proportion of the sexes, as nearly as could be ascertained, will be shown to be about 100 men to 80 women; which is rather more favourable than is shown by the above table, and considerably more so, as we shall presently show, than in the town pahs. This census, if completed, has not yet reached England.

On the east coast we learn, from the highest authority, that the proportion of males to females is as 100 to 75, and that the number of children is lamentably small. Finally, the writer has himself taken some trouble to investigate the matter whenever he has had opportunity, as well near Wellington as elsewhere; and his impression is, that about 100 men to 75 women is the prevailing proportion. In many small pahs and kaingas he has found the ratio as high as two to one.

The population of the town and harbour of Wellington has lately been very carefully ascertained, for the purpose of settling questions of occupation and cultivation between the natives and the New Zealand Company. In the town of Wellington the six or seven pahs which existed at the first settlement of Port Nicholson have dwindled to two principal pahs, and a small knot of natives at the one pah of Kurun-toto. The other pahs mentioned in the following table extend from Wellington to the

In 1846 the children are not distinguished. In the case of Kauai, Sir G. Simpson quotes a census, where the disproportion between parents and progeny was so great as 'to leave, perhaps, hardly half a child to 'each couple of those who were classed as men and women.'

mouths of the Eritonga or Hutt. The old pah of Tiakiwai exists no longer as a pah. The spot is used by the natives as a sort of market for pigs, potatoes, fish, and fire-wood, and, to say the truth, for a more reprehensible purpose.

Population of the Harbour of Port Nicholson, January 1. 1847.

Pahs.	Men.	Women.	Boys.	Girls.	Total.
Pitoni - - - -	58	41	14	21	134
Wai-weta - - -	24	20	10	6	60
Nga Urunga - - -	25	22	12	9	68
Kai Warra - - -	31	22	5	2	60
Pipitea - - - -	53	35	11	17	116
Kurun-toto - - -	8	11	2	2	23
Te Aro - - - -	88	51	19	14	172
Tia ki wai - - -	no permanent residents.				
	287	202	73	71	633

Proportions	- -	70·4 women to 100 men.
„	- -	50 children to 100 men.
„	- -	29 children to 100 adults.
„	- -	75·8 females of all ages to 100 males.

An excess of males prevails, to a greater or less extent, throughout the Polynesian islands; but detailed accounts are not to be met with.* The mere fact is mentioned by almost all writers on them from Cook downwards. Cook describes it as a conspicuous evil every where; and in Easter Island—far remote from the usual track of ships, and rarely visited by Europeans—the fact is equally true at the present day. From some personal knowledge of the American Indians, and from the various statements published concerning the Australians, we cannot resist inferring that this inequality of the sexes is a feature common to all savage tribes, among whom the condition of women is very deplorable.

The effect of an excess of males on the aggregate fecundity of a population has not yet, we think, been properly estimated. Even where a high standard of sexual morality is acknowledged, there is always a very great amount of ill-directed indulgence, exercising a considerable effect on fecundity, though not necessarily on population; because the children produced may still be more numerous than can be brought up. If the social state be such that a lawful union soon after the attainment of full age be difficult or inconvenient, there has always hitherto been

* Mr. Jarves gives a detailed account of the population of Kauai, one of the Sandwich Islands. The numbers are, 4620 males and 4135 females—a ratio of 100 to 88.

found a lax morality in that respect, even among a people otherwise moral. Witness the case of Great Britain itself, where no impediments are in the way of timely marriages from a disproportion between the sexes, but only from the habits of society; which require, in all but the lowest and most reckless, a certain security for the future before the married state is entered upon. But wherever there exists so inseparable a bar to marriage as a large deficiency of women, the probability of unchastity is far greater, with a proportional injury to fecundity. It is a physiological fact, that promiscuous indulgence on the part of the female has a tendency to postpone and impair, and, if carried to excess, to destroy her fruitfulness; and the following generalisation may be suggested as approaching to the certainty of a law of nature.

The number of the males in excess is the expression of the minimum amount of fecundity destroyed: that is to say, a population consisting of 100 males and 80 females will be fruitful, not as might be supposed in the proportion of 80, but only of 60 pairs. It is not necessary to the value of this law, to assert that the fruitfulness of any one female is destroyed, though in practice, no doubt, that of many is so. Assuming the effect to be distributed over the whole population (reducing the general run of families to one or two children*), the lowering

* As we proceed, we cannot refrain from giving two pieces of evidence of the reduced state of fecundity at two opposite points of the Polynesian group. In 'Jarves's Sandwich Islands,' Appendix, p. 373., there is, as we have just said, an exact return of the population of Kauai. It appears that all who have three children are exempt from taxation; and yet very few indeed appear to be so exempt. The island is divided into four districts, and the population is thus classed:—

Taxable men	905	490	536	853
„ women	732	384	396	701
„ boys	75	17	31	34
„ girls	45	30	32	34
Boys under 14	309	30[1]	155	353
Girls under 14	277	132	154	264
Men having three or more children	25	0	10	33
Women ditto ditto	24	0	10	31
Old men	249	75	101	237
Old women	294	94	125	279
	2935	1252	1550	2819

[1] So in the original, but probably 130.

of the aggregate sum of fecundity is, in the most favourable circumstances, equivalent to its utter destruction in twenty females and forty males. In other words, if, on the one hand, we assume, not as the fact, but as an approximate measure, the unimpaired fecundity of sixty pairs, we must, on the other hand, reject the remainder (*i. e.* twenty over-matched females and forty over-matching males,) as wholly inoperative in continuing the race. We put this forward only as an empirical rule; fully satisfied, however, that, as such, it may safely be relied on. We can conceive as possible so pure a state of morality, as to set the rule practically aside; or we can conceive the excess of males to be employed in wars among themselves, or in distant wars or distant navigations. On the other hand, circumstances may arise to aggravate the operation of the tendency. But, as a tendency, we are bound to keep it steadily in view, if we would look for the improvement of the native race in the right direction.

The measure which we have suggested of the effect of the tendency, supposes that no licentious habits have been generated beyond what are involved in that gratification which, in spite of morality and missionary teaching, the males who are in excess will always secure to themselves. Suppose the sudden destruction or removal of a portion of the women in a community of what we shall call average morality, the effect, previous to the tainting of the whole population with licentious habits, would be such as we have stated. That was our reason for using the phrase 'minimum amount of fecundity destroyed.'

So that of a total population of 8556, only 68 couples had more than sufficient descendants to replace themselves.

A census of the pah called Pipitea, in the town of Wellington, taken by the medical officer, Dr. Fitzgerald, in 1847, gives the following results:—

1 married couple with 5 children each pair.					
1	„	„	3	„	„
5[2]	„	„	2	„	„
10 couples and widow			1 child		„
10 couples with			0 children.		
27 single men.					
8 single women.					

Thus, in Pipitea pah, there are 28 children to supply the waste of 88 adults!

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[2] One of these has two wahiné; with this exception polygamy has ceased in this pah. Among 27 couples, 2 only have more than 2 children, and 10 have none.

In such a community, the effect upon population would probably be no greater than is contemplated by Mr. Malthus in the fifth chapter of his first book*: that is, it would be a mode, but by no means the only mode, by which population would practically be kept down to the means of subsistence. So demoralising, however, is a large excess of males, that it would not exist long without generating habits of licentiousness, calculated to impair fecundity to a far greater extent than our measure expresses:—besides the impediments which it throws in the way of rearing many of the children whose birth it had not prevented. Even an equally matched population may become so licentious as to produce and bring up but few children. The Areoi societies of Tahiti were probably not ill-matched.† Being composed of the highest class, they would secure to themselves a full supply of women. From their licentious lives, they probably did not produce a large proportion of children, and such as were produced were put to death. Out of the pale of the Areoi, in Tahiti, and throughout the whole of the Polynesian islands, until the occurrence of a recent exception, the state of society in point of licentiousness has been without parallel in any other part of the world in modern, and perhaps even in ancient times.‡

All recent accounts show that early licentiousness among the women and female children, though restrained, no doubt, by missionary teaching, is not eradicated even in the fully Christianised islands; while in New Zealand,—as yet but half converted, even if the numbers professing to be Christians be considered such, not one quarter perhaps of whom can be considered Christian, if tried by a more rigid test,—its prevalence is still very great indeed.

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* 'Of the Checks to Population in the Islands of the South Sea.'

† The best account of the Areoi Society is to be found in Ellis's 'Polynesian Researches.'

‡ Every reader conversant with the subject is aware of this fact; and if formal proof be required, we may refer to the very careful and complete summary of authorities given by Mr. Malthus in the chapter already cited. (Vol. i. 4th ed. p. 88.) With his usual sagacity he seeks for 'powerful checks to population in the habits of the 'people;' stating, as the only alternative, 'unless a perpetual miracle 'render the women barren.' Mr. Malthus's purpose merely required him to show the check by which population was kept down. At an early period, probably, the checks went no further than to keep the population of the fully peopled islands stationary, or nearly so; and it was obviously no part of Mr. Malthus's plan to show in what manner a set of checks, only sufficient at one period to keep population stationary, may become so aggravated as to promote depopulation.

In many of the islands of the Pacific there have existed, and in New Zealand there still exist, circumstances and habits which directly aggravate the excess of males. The first is the ancient and still prevailing practice of polygamy. Most of the unconverted chiefs of New Zealand, and many of the Rangatira, or upper class, have a plurality of women. Eight is the largest number that we have heard of; three, four, and five are not uncommon, but many have only two (perhaps the principal wahiné and her sister). Christianity has checked this, as well as other hurtful practices; but it has only scotched, not killed; and even some chiefs, who, from policy, *profess*, without *feeling* the new faith, may still be seen attended by their women. Of this the well-known Rauperaha may be cited as an instance. The number of professing converts in New Zealand may on the whole exceed one half of the whole population; but the proportion of converted chiefs is rather less than that of the common people (tutua) and slaves (taurekareka). There is also a collateral consequence of this institution, which greatly aggravates its mischief. A single example will best explain this. Te Heu-Heu, the fine old chief of Taupo, who perished by a landslip in the winter of 1846, with his son, his eight *wahiné*, and a numerous body of his people, had always rejected the overtures of the missionaries with scorn. His son, however, a fine lad, was a Christian; and, had he lived, would no doubt have married only one woman, and have greatly contributed to the civilisation of his tribe. Yet, up to the time of his death, as we have been informed, some four or five of the best connected young girls of the Taupos and kindred tribes were made *tapu** (sacred or exclusive) to him. In all probability this tapu would not have been taken off during the old man's life — even after the son had married according to the Christian rite. The privilege of tapuing a number of females to his future use, in addition to the possession of a number of women or wives, is by native custom vested in every chief. In case any of the women, who have been thus appropriated, break the tapu, the penalty is, or may be, death; unless the chief, and perhaps the tohunga or priest, be propitiated by a large gift, as 'utu' (payment or satisfaction) for the offence.

The effect of this custom is to remove, as it were, out of the market precisely those females most likely to have had families; at the same time that it enhances the aggregate excess of males among the great body of the people. Let it be assumed that the wives, and ultimately the *tapu* females, are placed in cir-

* Commonly written *taboo*.

cumstances favourable to breeding; and that they do, in fact, though this is far from being the case, and is most improbable, produce large families: nevertheless, their temporary removal, by diminishing the aggregate supply of families, spreads the operation of the rule above laid down over a larger number; in other words, decreases the proportion of fertile pairs.

To this evil the presence of Europeans, no doubt, adds more or less considerably.* In all our colonies there is an excess of males. Even with great care to secure equality of the sexes, by aiding the emigration of young married and marriageable couples only, it is impossible to check the voluntary emigration of a much larger proportion of young men. All above the labouring class abstain from marriage until they have acquired some means. If, in order to sustain their position — or, as it often turns out, to sink in the scale of society unseen by their former associates — men above the labouring class determine upon emigration, they shrink from subjecting a wife of their own class to the hardships, difficulties, and uncertainties incidental to establishing themselves in a new country, even when most favourably circumstanced. Again, the whole of the whaling population — the 'shore parties,' as they are called — are, almost without exception, single men; or — if sea-faring men, with wives at home —

* According to Count de Strzelecki, the presence of the European acts still more directly in accounting for the gradual disappearance of the native tribes. From his own experience of hundreds of instances, recurring among different races of aborigines, he infers the general fact, — that in all cases of fruitful intercourse between an aboriginal female and a European male, the power of conception on a renewal of intercourse with the male of her own race is lost, and that of procreating with white men only is retained. (*Physical Description of New South Wales and Van Diemen's Land*, p. 347.) This most humane and accomplished traveller must excuse a writer in the 'Monthly Journal and Retrospect of the Medical Sciences,' of last October, for treating the inference in question as nothing more than an hypothesis for the present. The late Mr. Sadler had a memorable gift for discovering recondite laws of population. And notwithstanding Captain Larcom's reliance on Mr. Gregg's Social Statistics of the Netherlands, we share Mr. Hallam's surprise at finding that the Report of the Irish Census of 1841 has affirmed the average number of children in an Irish family to be considerably lower than in a Scotch or English one, 'in accordance with *the well-known law*, 'that the most marrying race have the lowest cypher of fecundity.' (*Journal of Statistical Society, June*, 1844, *Sept.* 1845.) What would the Chinese say to this well-known law? Not long ago, philosophers accounted for the polygamy of Asia, by supposing that Nature had handsomely accommodated the East with a proportional excess of females.

they are single men in relation to the colony, and to our present purpose.

The European population of New Zealand, according to the census of 1846, was as follows:—

	Males.	Females.	Total.
Company's Settlements - - -	4621	3849	8470
Northern Settlements - - -	2616	1888	4504
Whalers, chiefly South - - -	700	„	„
	7937	5737	13,674
Proportion of sexes - - -	100	72·4	

A still later European census, distributed as follows, presents nearly the same proportion:—

	Males.	Females.	Total.
New Ulster - -	4996	3835	8831
New Munster - -	4911	3966	8877
			17,708

The ill consequences of this excess of males do not fall upon the European population,—or, at least, only to a small extent,—but on the natives. A great number of the single men who have spread about the colony as stock-keepers, shepherds, and in other available offices, as well as nearly all the whaling class, have 'Maori wives.' In some cases the connexion is sanctioned by the legal tie; but, in most, it is a 'Maori marriage,' arranged by a bargain with the friends of the woman, cemented by the all-pervading 'utu.' The woman so assigned to the pakeha (or stranger) considers herself his wife, until the tie is dissolved by the will of her lord. She is generally faithful, hard-working, especially useful, and almost invariably cheerful and good-tempered. In many cases the birth of a child induces the father to convert the temporary connexion into a legal marriage. In the middle islands, and in the southern or Stewart's Island,—the coasts of which are frequented by the black whale,—connexions of this nature have given birth to a fine race of half-caste children,—one of the finest in the world; many of whom are now grown up, and are distinguished for their comeliness and beauty. Upon the female part of the European population of New Zealand the effect of this is beneficial. It goes far to absorb and render innocuous the excess of males; and young European women, looking forward to marriage with more certainty than they could have done in England, have a powerful motive to remain chaste. In the towns, open and professed

prostitution is almost confined to native women. But, as far as the natives are concerned, the surplus of males in the European population is exactly so much added to the excess of males among the natives themselves.

The small number of children is the most striking consequence of the deficiency of females, and of the state of morals engendered by such deficiency, aggravated, as we shall soon see, by other circumstances. To understand the full extent of the evil, we must compare the number of children with the number in other countries more favourably situated. For this purpose we have chosen the United States, where population is rapidly increasing; and Ireland, where the rate of increase is now extremely slow. We need not trouble the reader with a confused and tiresome array of statistics, as the sources of information are open to all the world; but shall content ourselves with a table showing proportions only, as also being more favourable to clearness of comprehension.

Classes.	United States.	Ireland.	New Zealand.	
			5 Pahs.	Towns.
Adult males - - - - -	100	100	100	100
Adult females to 100 men - -	98	108	77	70
Children to 100 men - - -	161	141	48	50

It may be that there are some parts of New Zealand, remote from the towns and coasts, where the proportion of children is higher; but the probability is, that the proportion exhibited by the whole population is not much more satisfactory; for, as we have already observed, the Wanganui and Marrawatu rivers run far into the interior, among tribes having very little contact with Europeans. If the excess of males had worked no ill effects beyond the destruction of fecundity expressed by our empirical law, 100 men and 77 women, being equivalent to 54 fruitful pairs, ought, according to the Irish proportion, to have 78 children. That they have only 48, shows additional causes to be at work.* Some of these we have already dwelt upon; others will

* In Ireland there are (or latterly were) 48 children to every 34 pairs of adults. It may be necessary to remark, that these numbers do not express the number of children born to every 100 men (or 200 parents) during their whole lives. If every 200 parents had only 141 children altogether, the race could not be kept up. The number 141 represents the children in existence at any given time, for every 100 men, or 200 adults; which is far short of the total number of children to 100 marriages. At any given time, many of the grown persons in existence have had no children; a majority,

be stated hereafter. In the United States almost every circumstance is, in a high degree, favourable to increase of population. In Ireland, circumstances are not unfavourable to fecundity, but are so to the rearing of children. In the period from which our numbers are taken, the population of Ireland, though not absolutely stationary, was increasing very gradually. In case, then, 141 children to every 100 men be necessary, as above, to keep up the race, and provide for a very small increase, it follows that 50 children must be wholly insufficient to sustain a population of 170 adults; and unless the proportion of children and women be increased, by removing or weakening the existing causes of deficiency, depopulation must go on indefinitely.

It is impossible to say at what period, and under what circumstances, the disproportion in question first originated. The language of the Polynesians, however, shows that they have all migrated from one source; while the dialectic differences are so small, that the epoch of their migrations cannot have been very distant. Now immigration, as we have already observed, is always attended by some excess of males. Our oldest colonies and the United States have not overcome it yet; and perhaps the Polynesians in their present abodes, never had a perfect equality of the sexes. But the deficiency of females in these islands, even if not originally produced, has certainly been maintained, by the degraded state in which the weaker sex has evidently long been held,—a state which is not materially ameliorated at the present day. It may be matter of speculation, therefore, how it happens that the causes, from which we are anticipating the probable extinction of the race, should not have brought it to its termination before this. The most severe and painful labour falls on them. They bear heavy weights, and do nearly all the field work, besides all the work in-doors. They are literally treated as beasts of burden. It is to be feared that the missionaries, having for the most part been struck with the enormity of those grosser practices which they deemed peculiarly sinful, have, in their teaching, neglected other no less essential moralities. Some, however, have devoted themselves, with as much intelligence and thoughtfulness as zeal, to the general improvement of the habits of the natives. Nor is it by hard labour alone that the Polynesian women suffer. For

probably, have not yet had half the number they eventually will have; and only a small minority have had their entire number, of whom, too, a proportion have grown up, and are reckoned among adults. Thus the population returns may show only 141 children to 200 adults, when the number of offspring to a marriage may be four or more.

small faults, real or pretended, they are often cruelly beaten, and for graver offences, killed. For example: — 'About the middle 'or latter end of June, 1843, one of the wives of a native chief 'at Kaweranga-on-the-Thames (New Zealand), for some alleged 'offence, was hung up by the heels, naked, and exposed to the 'view of the whole tribe. In that state she was most bar- 'barously beaten. This treatment had such an effect upon her 'that she got hold of a musket loaded with ball, placed the 'muzzle towards her body, and fired it by placing her toe 'against the trigger. The ball passed through her lungs, and 'lodged in her spine. She languished for eight or ten days, 'and then expired.'

This continued hard labour and this systematic cruelty operate in two ways. The waste of female life is greater than that of male; and not merely is fecundity impaired, but the power of rearing children. Many of the affections to which European women are subject, and which are scarcely deemed diseases, become severe and often fatal maladies among savages. The facility with which savage women bear children is mentioned by many travellers. We believe it to be much over-stated. They are certainly peculiarly liable to various uterine disorders, either produced or aggravated by the hard treatment they suffer, and of course made much more serious by their own ignorance and unskilfulness.

If some evils be chargeable against European contact, they are counterbalanced by much good. Our better example, it may be hoped, is softening the lot of women. Skilful medical management is daily rendering the risk of disaster during pregnancy, as well as at and after child-birth, smaller, and the chances of rearing a larger proportion of the children born much greater. The native women suckle their children for a very long period, and when they feed them, their first food is but ill adapted to the tender organs of infants. Our medical officers at the native hospitals, and the English and American medical men now settled in all directions, are introducing more prudent habits. Filth, the most disgusting and fatal, is giving way to cleanliness; and it often occurs that when the Maori has, by some service, entitled himself to a small present, he asks for soap. It has happened to the writer to shame a New Zealander into relieving his *wahiné* from the heavy load at her back; and that, too, against her own sense of propriety, no less than against his: he taking it with a good-humoured laugh, she parting from it with no small apparent reluctance, — with much the sort of feeling as that with which an English wife, in a similar rank, would see her husband darning his own stockings, or washing his own shirt. Time must be allowed for displacing these 'respectable native prejudices;'

but they are dying out with more rapidity than our English farmers are likely to submit to some of the new contrivances of scientific agriculturists.

Infanticide formerly prevailed in all the Polynesian islands. That it now exists only partially, is owing to European example, and especially to the teaching of the missionaries. If the reader be desirous of perusing a variety of revolting, but not uninstructive details upon this subject, he may consult the works at the head of this article. Tried by the mere principle of the necessary relation between population and the means of subsistence, it may be doubted whether the population of the Polynesian islands would have been greater, *cæteris paribus*, if infanticide had not prevailed. We, however, apprehend that it has had considerable indirect influence, by aggravating the sum of gross licentiousness among the whole population. In most of the islands there does not appear to have been any choice as to the sex of the infants destroyed. In Tahiti the Areoi destroyed all children. A Mr. Stuart, a missionary, affirmed, in 1824, that two thirds of the infants perished by the hands of their parents: and Sir G. Simpson speaks of mothers exchanging children, and suckling pet puppies. In New Zealand, however, there cannot be a doubt that more females than males perished in this manner. The male children were spared to keep up the supply of warriors: the females were destroyed as an incumbrance; and, in some cases, mothers killed their infant daughters to save them from the sufferings incidental to the degradation of their sex. Though in New Zealand the more frequent destruction of female children has helped to aggravate the disproportion of the sexes, yet its operation has been less grievous and less constant than that of the general treatment of women. Hard usage and excessive toil, not suspended during any part of the period of pregnancy, are probably the most powerful causes of the waste of female and infant life among all savage tribes.

Infanticide has wholly ceased in the fully Christianised countries of the Pacific. It is rapidly subsiding in New Zealand; but voluntary abortion, brought on by violent pressure upon the abdomen, still continues. Abortion is resorted to by single women, to avoid the trouble of bringing them up, rather than to hide the scandal of having children; and the necessary manipulation is performed by women who make it a trade. The practice of abortion also impairs, and not unfrequently destroys, the fecundity of the females who have recourse to it. It further promotes licentiousness* by impunity. Both

* Before marriage, or the permanent connexion which is held equivalent to marriage, chastity is universally disregarded among young

infanticide and abortion have been supposed to spring from the disgrace attendant upon intercourse with Europeans, and especially upon the birth of half-caste children. If this looks like a plausible way of accounting for a revolting fact, we can only answer, that it must have been suggested in England in total ignorance of the habits of the Polynesians. Intercourse with Europeans is not deemed a disgrace except by natives fully imbued with Christian morality; and then the disgrace consists in the act itself, and is not enhanced by difference of race. An unconverted native woman, and many, too, who profess the new *tikanga*, will exhibit with pride their half-caste offspring. And why, according to their morality, should they not? Agreement to live with the man is the only marriage the native woman has ever known, and she is encouraged to live with the European by her parents and relations. Her condition is wonderfully improved in consequence: she has more wholesome food; she is not spurned from the presence of her lord, but shares his meal, his society, and his confidence. She exchanges her tattered mat for European clothing; she is taught to be cleanly, to braid her glossy hair, and adorn her person, until either she appreciates the convenience of the change, or her vanity is flattered by the distinction. She becomes an object of a tenderness she has never before known. She teaches her soft language to her partner, and learns his customs in return. Even the rough whaler is generally kind to the woman with whom he lives; and in not a few instances, as we have said, the temporary connexion is converted into a permanent one. Even where a separation takes place, it is no more than she would have been liable to from a native husband. At this moment, in the Supreme Court of New Zealand, there are cases of native women obtaining probates of the wills, or taking out administration of the effects of their deceased European husbands, and administering, with the advice and assistance of the official administrators, for the benefit of themselves and children.

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girls, not merely by themselves but by the men. The case in which illicit intercourse may and often does lead to infanticide or voluntary abortion, is where one of a chief's wives becomes pregnant. In such a case she will get rid of the evidence of her irregularity to avoid severe punishment from her lord, but not more so if the partner of her guilt be a Pakeha than if he be a Maori. The greatest disgrace of this kind, and one, therefore, most likely to lead to savage modes of effectual concealment, is, where a woman of the superior class yields to a plebeian (*tutua*) or a slave (*taurekareka*). In such a case discovery is followed by degradation and death, if not from the tomahawk or club of the chief, from the hand of the frail one herself.

On the other hand, were a native girl to refuse the connexion, and so deprive her parent of the customary *utu*, and her quasi feudal lord of his *maritagium*, she would be cruelly beaten, in punishment of her perverseness. It is a curious fact that the parts of New Zealand the most remote from the advantage of missionary teaching, but the most habituated to this species of connexion, — namely, the east coasts of the middle island, — acquired earlier than the north the wants of Europe, — for instance, that of European clothing.* The natives of that district have made many advances in civilisation by the force of mere imitation. Not that the natives of the Northern Island are at this day comparatively backward. During the administration of Governor Grey they have made great progress. A native police, the habit of working side by side with Europeans on the roads for wages, militia service with Europeans in the late outbreaks, have, it has been said, operated as 'a normal school for breeches.' No one can have had any intercourse with the New Zealanders, without being convinced that however much the practice of taking a Maori wife is to be deprecated on religious grounds, it has had, in the early stages of our intercourse, a very beneficial influence on the native character. Its effect is injurious, as far as it aggravates the excess of males; but this is counterbalanced by introducing improved habits, especially cleanliness, neatness, and order; by setting an example to the males of a milder treatment of women; and by generally harmonising the whole population.

In accounting for the present state of the Polynesians, their past wars should not be left out of the account; and, in this respect, there can be no question how much European intercourse has benefited them. War, as it is conducted by Europeans, does not permanently diminish population. Among populous nations, it is doubtful whether it makes even a temporary impression. The casualties of a campaign are soon supplied by the increased number of children reared. Unless where warfare is accompanied by a great destruction of capital, so as to affect productive industry, or by the laying waste of lands, its tendency is rather to stimulate increase of numbers, by keeping down the excess of males. But the wars of the New Zealanders and the Polynesians have had a contrary tendency. In proportion to the small numbers of the people, those wars were frightfully and almost incredibly destructive. In many cases, whole communities — Hapu, or sub-tribes — have been exterminated. A pah

* The comparative coldness of the climate no doubt promoted this. Otago, in 46°, has a harsh climate compared with the Bay of Islands in 35°.

once taken, so long as the infuriated passions of the invaders lasted, the slaughter of the conquered was continued, accompanied by every aggravation that savage nature could devise. Neither age nor sex was spared, unless it were a few of one sex for slavery, and of the other for lust. The traveller along the coast paths of New Zealand continually passes the depopulated pahs and cultivations of annihilated tribes. Large tracts of country now deserted, or only sparsely peopled, meet his eye, with the most unequivocal marks of former populousness, and of the manner in which it has disappeared. After the Nga-pnis of the Bay of Islands, under E Hongi (or Shungie), obtained muskets, the sanguinary brutality of their first inroads upon the Waikatto tribes would read like fables. In one of their expeditions, they made an attack upon the great Waikatto pah, called Matuke-tuke. The Waikatto had only native weapons, such as clubs, stone axes, and greenstone *meri*, or patu-patu. With the superior advantage of fire-arms, which E Hongi had travelled to Sydney, and even to England, to obtain, the pah was captured in a very short time, when an indiscriminate slaughter commenced. Upwards of 2000 were slain; feasts were held daily on the dead bodies; the bones of the slaughtered still whiten the plain; and the ovens (holes in the ground where the flesh is cooked between heated stones) bear witness to the barbarous banquets in which the conquerors indulged. An immense number of slaves were taken, many of whom were killed and eaten on the way back to the Bay of Islands.

If any of its inmates succeed in getting out of a besieged pah, it is the youngest and strongest. So much the worse for their weaker comrades, when the catastrophe arrives. At Pukerangiora, and other places, a body of young men escaped. Those who were left behind were, for the most part, killed, a few only being spared for slavery. The middle island of New Zealand was probably never very populous; but it was, within the memory of the early traders, much more so than at present. The treacherous and ferocious slaughters by Te Rauperaha are still remembered; and the numerous tribe which he and his Ngatitoa all but exterminated, is now represented by one solitary man.

It is not merely the numbers, the sex, and the tender age of the slaughtered which can convey a true idea of the effect of these wars upon population.* All the adult males are fighting

* A reference to the pages of Mr. Williams's 'Missionary Enterprises' will afford ample illustration of the destructiveness of the native wars. Speaking of Harvey's Island, Mr. Williams says:—'I visited it in 1823, intending to place a native teacher there, as I

men; and, if they move or are driven to a distance, they carry their women with them. There is no such division of the people, as to permit production to go on concurrently with war. The invading tribe must, for the most part, subsist on the invaded land. The invaders are sometimes more numerous than the invaded, and always bear a large proportion to them. So long as a *taua*, or war party, lives on the enemy's country, their own remains untilled. Then follows a deficiency of food, which affects equally the conquerors and the conquered. This, again, falls most heavily on the women; for they eat not in the presence of their lords, nor until these are satisfied. The courtesies which, in Europe, remove the pressure of all casual hardships from the sex least able to bear them, are here absolutely unknown. There is not a single exception in their favour.

Now what has been the influence of European intercourse upon these exterminating wars? In the completely Christianised islands, war is wholly, or almost wholly, at an end. In partially Christianised islands, missionary teaching and European example have reduced its frequency and mitigated its character. In New Zealand it has almost ceased between the natives; and, when carried on at all, is much less bloody. In the late rebellion in New Zealand there was very little cruelty. With one or two exceptions, it was conducted according to the humane forms of European warfare.

The healthiness of a people has an immediate effect on its numbers, especially when it affects the capacity of the female to bear and rear children. On this head our means of information are limited. According to Captain Cook, in 1769, these people enjoyed 'perfect and uninterrupted health:' and Dr. Forster,

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'expected to find a considerable population; but on learning that 'by their frequent and exterminating wars they had reduced themselves to about sixty in number, I did not fulfil my intention. Some 'six or seven years after this, I visited the same island again, and 'found that this miserable remnant of the former population had 'fought so frequently and so desperately that the only survivors were 'five men, three women, and a few children! and at that period there 'was a contention among them as to who should be king.' (P. 5. *Snow's Cheap Edition.*)

Speaking of *Manke*, one of the same group, he says:—'By an 'invasion of a large fleet of canoes, laden with warriors from a neighbouring island, three years prior to our arrival, the population, 'previously considerable, was, by the dreadful massacre that ensued, 'reduced to about 300.' And in *Mitiaro*, 'by famine and invasion, 'this island has likewise been almost depopulated, there being not '100 people remaining.'

though he was of opinion that they had the venereal disease before we came among them, yet bears witness to their general healthiness. In New Zealand native hospitals have recently been established under the auspices of Governor Grey; and, in a few years, a valuable body of knowledge will be collected. The medical officer of Wellington, Dr. Fitzgerald, has given a table of the diseases which have come under his notice during an experience of five or six years.

There is no doubt of the almost universal prevalence of pulmonary disease. Scrofulous affections of various kinds are also common, and there is a very aggravated skin disease, called wai-haki-haki, a sort of scrofulous *scabies*. In a word, the constitution of the New Zealanders is what we should call unsound. The causes assigned by Dr. Fitzgerald are, the wearing blankets as an article of dress; bad houses, admitting thorough draughts of air through all parts; sleeping on the cold damp ground, and bad diet; but these causes, serious as they are, seem scarcely sufficient to have originated of themselves the state of health which we find at present. Strange to say, what we cannot but consider the two most prominent specialties in the physical history of the Maori branch of the great Polynesian family, have been almost entirely overlooked in accounting for the strumous habit of body which is so universal among them.

The Polynesians are essentially an inter-tropical people. Let the reader glance at the irregular triangle which we have designated as the boundary of the race, and he will find that the Maori is the only branch inhabiting the colder portion of the temperate zone. The northernmost point of the Island of Kauai, one of the Sandwich Islands, is in 22° 15′ N. The southern tropical line encloses the Friendly or Tonga Islands, Rorotonga, Mongaia, and all the smaller Polynesian Islands, except Pitcairn's and Easter Island, and a very few uninhabited rocks. Between these and New Zealand, which lies in the milder portion of the temperate zone, none of the Polynesian race have settled; indeed, there is but little land. Within the above limits a tropical climate is tempered by insular position, and is highly favourable to uncivilised life.

New Zealand, on the other hand, extends from 35° S. to 47° S., with a temperature lower and a climate more severe than corresponding latitudes in the northern hemisphere; the difference being sometimes estimated at 7°, though this we think excessive.

There is no doubt but that the human frame readily adapts itself to a change of this extent, especially in a few generations. The process of *acclimatising*, as it is called in America, is familiar

to all who have ever had to remove from a temperate to a tropical climate; and there is no reason to believe that the human frame will not sustain as well, or nearly so, the opposite change. But the Maori has brought from the tropics the habits of the tropics. He dresses in a single mat or blanket worn as a robe, and he moves about, in an Irish or a Channel Islands climate, with his feet, legs, and head bare. Until taught better by Europeans, his dwelling was of the tropical form and materials. Its interior is always over-heated by well-fed fires; but he hesitates not to obey the impulse of the moment, and to rush half naked into the cold and damp air of night. If he has lately learned, from his Pakeha brother, to consult, in some degree, the exigencies of climate, and has begun to clothe his head and feet, and to protect his body, these changes are as yet far too recent to have accomplished any ascertainable amendment in the constitution of the race. This constitution, in its present unsoundness, may fairly be attributed to habitual neglect of the most necessary precautions, especially in a people of their descent.

The other dominant fact, calculated, as we believe, to exercise an unfavourable effect on the human constitution, wherever it is practised, is cannibalism. We throw this out, however, as a suggestion merely. The universal prevalence and dreadful extent of cannibalism among the New Zealanders, up to a very recent period*, is well known. In some other of the Polynesian group it still exists unchecked. Mr. Lawry, superintendent of the Wesleyan Missions in New Zealand, gives a shocking account of the consumption of human flesh in the Feejee Islands. In the missionary notices of last November, Mr. Lyth records, that Ravatu, one of the principal chiefs of Rakiraki, showed him, about a mile out of the town, a row of stones, by which his father had kept count of the number of prisoners his father himself had eaten. They amounted to eight hundred and seventy-two! Cannibalism may have originated as a superstitious rite; but in a country without animals it will also have been practised for a meal—from a desire or a necessity which, by the way, seems to account for the frequency of capital punishments in many such cases as would otherwise have been satisfied by a far lighter penalty. The feeding upon human flesh from generation to generation, a usage so contrary to the general laws of the animal economy, must be regarded as unfavourable to health; and the New Zealanders have fed in-and-in, as well as bred in-and-in†, for generations.

* The last known case was in 1844.

† For the purpose of perpetuating the blood of a family, or in obedience to some other custom, or perhaps merely to satisfy inclina-

It is not to be denied that communication with Europeans, in the miscellaneous way in which in its first stages it takes place, is injurious, but in a far less degree than is ordinarily supposed. The abuse of ardent spirits, European diseases, and European weapons, are generally mentioned as the three great inflictions. With regard to drunkenness, it is a singular distinction, that it has not spread to any very mischievous extent among the Polynesians. They are much in the condition of Englishmen in this respect: drunkards are occasionally to be found; but they are an inconsiderable exception, when compared with the whole people. The New Zealanders are so free from the vice, that such as practise it (Heki in the north, and Rangiharata in the south, for instance) are a bye-word and a reproach; they are pronounced *porangi*—foolish, or deranged. By 'European dis-'eases,' syphilitic are no doubt meant. In the early periods of irregular European intercourse, the Polynesians undoubtedly suffered from disorders of this class; but in New Zealand, since the epoch of regular colonisation, with its attendant medical skill, they have ceased to prevail to any such degree as to require particular notice. The writer has made inquiries among the medical men best acquainted with the sanitary state of the Maori population; and the statement we have made is founded upon their testimony.*

As to arms and gunpowder, they tend to increase the decisiveness but to abate the ferocity of war. As in E Hongi's case, they gave the first possessors enormous advantages; but when those advantages became equalised, we believe the consequence to have been beneficial. The use of the musket does not excite the vindictive passions like a hand-to-hand encounter. Allowing,

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tion, what we call incestuous unions were formerly not uncommon. The brother sometimes took his own sister to wife.

* It is singular that all countries give to these affections names charging them upon some other nation. We call them emphatically 'French;' the French speak of them as *Anglaises*. The Portuguese charge them upon the South American Indians; who, in their turn, attribute them to the stranger. The probability is, that the first time a disorder is observed and recorded is not the date of its origin. What did Persius mean, in his Third Satire, by these lines?—

'Tentemus fauces: tenero latet ulcus in ore
Putre, quod haud deceat plebeiâ radere betâ.'
(*Sat.* iii. line 115.)

Read in connexion with the whole satire, they afford ground for doubting the modern origin of these disorders; and the disorders appear to be of a nature which might spring up among any people without being traceable to intermediate contact with some other.

however, the full force of these evils, and our responsibility for them, can any one peruse the accounts of the vices of the prior social state of the Polynesians, and doubt that, on the whole, our teaching and example have done good? Where now are their Areoi Societies?—their human sacrifices?—their infanticide?—their exterminating wars?—their cannibalism? All but extinct. We have taught them, and are daily teaching them, the use of wholesome food and of warm and healthy clothing, the practice of cleanliness, a taste for household comforts, and, above all, sundry modes of increasing the means of subsistence by well-applied industry. And as regards the evils which inevitably attach to intercourse with us, the means of mitigating them have been generally introduced, more or less, together with the evils. It is in this respect, that irregular colonisation contrasts most strongly and most unfavourably with that which is pursued on system. In those islands where colonisation is abandoned to runaway sailors, escaped convicts, not over-scrupulous traders, and zealous but not always very enlightened missionaries, the prospects of the native race are less promising than where the social state is well organised, and an orderly government established from the first, as in New Zealand. But, if even this has hitherto been only a difference in degree, what a responsibility does it leave with us! Henceforth communication in one form or another is inevitable. This indisputable fact should be our starting point; and ill-informed indeed must be the persons who, for the sake of the aborigines, would desire that even systematic colonisation should be discouraged.

Whether the downward tendency of the Polynesian race will be stopped by the improved habits which they are certainly and rapidly acquiring, is more than human foresight can determine. This much, however, we are entitled to assert: this desirable end can never be accomplished but on one condition,—that of softening the lot and improving the condition of the women; so as gradually to equalise the proportion of the sexes, and increase the number of children born and reared. In the Tonga Islands the decline of the population is said to have been arrested: and it is remarkable that the manners of the people were always milder there than in the other islands, and the treatment of the women more humane.

The sketch we have attempted to draw does not pretend to be complete, even as a picture of the country with which we are best acquainted. Meantime, it must be obvious that, in order to act with advantage, it is necessary to know the mischiefs against which we have to fight. Such social evils, as tend to

promote and keep up the inequality of the sexes should, in the first place, be carefully ascertained and classed: and the more exhaustive the list, we shall be so much the better qualified for applying whatever remedial powers are in our hands. Denunciations against the blanket, and diatribes against tobacco, are not wholly without use; but they keep out of view the principal grievance. Let this once be well understood, and there is scarcely a settler, howsoever humble his position, who may not, through his intercourse with the natives, contribute to the meliorating process. In spite of aggressions by the natives in New Zealand — which have certainly been most trying to the forbearance of the English colonists — the settlers in immediate contact with them are living among them upon terms highly favourable to their improvement. To the eye, indeed, a visible improvement in outward appearance is going on, though it is impossible as yet to say how far it is acting upon the master mischief. Decreasing numbers, however, may be coincident awhile with real and steady progress; since nothing is more common than for the effects of a pernicious system to continue for some time after a more healthy epoch has commenced.

New Zealand enjoys a very large proportion of settlers of a superior class, whose orderly lives and well-regulated habits cannot fail to make an impression on their imitative neighbours. It is on this teaching by example that our main dependence must be placed. Still, considering the magnitude and nature of the obstacles to be overcome, to anticipate their immediate removal is almost to hope against hope. A very considerable decrease will probably take place among the Maori population, and in other islands similarly circumstanced, before the turning point can be reached. But even if it be never reached — if the decaying tendency should never be effectually checked, such of the British people as live in contact with them will have, at least, the consolation of knowing that the native race will have become lost to the world by a gradual process of extinction, not by extermination; and that the last years of their existence as a people will have been passed in comfort and in peace.

Another solution of this embarrassing problem yet remains: perhaps more probable than the direct civilisation of the natives, and certainly far less painful than their extinction, — we mean their amalgamation with their European guests: Until at last there shall be only one family in the land — children of the soil — representing in lineal succession the New Zealander by descent and the New Zealander by adoption. The Maori may disappear, only to rise again in a nobler form. And this is a consummation to which both statesman and missionary are evidently looking.

Sir George Grey, in one of his last despatches (July 9. 1849), observes, that a class of settlements, so constructed, 'might easily 'grow into prosperous communities, into which the natives,— 'with characters softened by Christianity, civilisation, and a taste 'for previously unknown luxuries,—would readily be absorbed.' Mr. Lawry, the New Zealand Missionary, is still more explicit: 'The preservation of any one of the families of the extensive 'Polynesian nation in their distinct and present form, seems to 'me unlikely. . . . The expectations entertained in Eng- 'land are by no means realised on the spot. . . . I am of 'opinion that the probable working out of the problem will be 'this . . . that the tide of emigration will, sooner or later, 'flow to their shores, and that a fine new race of civilised mixed 'people will cover this part of the earth. . . . In many 'parts of New Zealand the natives are melting away; but they 'are not lost, they are merging into another and a better class. 'In this process there lacketh not sin; but Providence will 'overrule even this, and bring forth an order of things, which 'shall be better for the world, better for the Church, and better 'for the new race.'

ART. VI. — 1. *An Examination of some prevailing Opinions on the Subject of Taxation in this and other Countries.* By GEO. WARDE NORMAN, Esq. London: 1850.

2. *Rapport Général, présenté par M. Thiers au nom de la Commission de l'Assistance Publique.* Paris: 1850.

3. *Latter-day Pamphlets. No. I.* By THOMAS CARLYLE. London: 1850.

'THE accumulation of capital, the result of an excess of in- 'come over expenditure, is the normal state of England,' observes Mr. Norman, in the admirable tract of which the title is prefixed to this article. We believe his assertion to be undeniable; though chiefly applicable, during the last year, to capital engaged in commercial and manufacturing industry. It is true that, on a longer retrospect, agricultural capital has likewise been profitable. The enhanced value of real property cannot be controverted, even by the most determined protectionist. Nevertheless, large fortunes are seldom realised by working farmers. The homesteads of Norfolk and of Northumberland have not, as yet, produced the wealth of the Peels and Arkwrights. The reason of this is obvious. The merchant and manufacturer are forced to move onwards, and to move quickly.

Skill and intellect, the successful application of art, the careful analysis of science, are more requisite, are allowed a fuller developement, and receive a richer reward in commercial than in agricultural pursuits. The steam-engine, from its first action in cleansing the cotton, through all its subsequent operations, till it moves the power-loom and packs the bales for export, increases the value of the raw material in a far greater proportion than has ever yet been realised between the newly-sown wheat-field and the baker's oven. There is still less scope for ingenuity in passing from the fattening stall to the butchers' shambles, from the milking byre to the cheese-merchant's warehouse. We are far from suggesting that the same causes which add value to the raw materials used in manufactories—to silk, wool, cotton, and the metals—do not, though in a very different degree, contribute to the success of British farming. Kirwan, Davy, and Liebig have shown the intimate connexion between the tests and experiments of the laboratory and the operations of improved cultivation; and the successive shows of the Royal Agricultural Society prove that mechanism is likewise doing there its useful work. Smith of Deanston, and Parkes, as draining engineers, have taken their just place among those who may well be termed benefactors. But the original machine and the first elements of fertility, the soil and the atmosphere, do not possess, or at least have not yet shown, the same facilities for promoting accumulation, as Manchester, Leeds, and Derby. Holkham and Woburn have not produced the augmenting fortunes to their owners which have been realised in our sea-ports, our mills, and mines.

The complicated causes which influence foreign commerce, the principles which govern our banking system,—all that pertains to the creation and distribution of wealth,—are brought more immediately under the notice of the British merchant, and stimulate his acquisition of knowledge. The sphere of the farmer is far more limited: his duties are necessarily more confined, and less varied. His hands may be more laborious, but his mind is less active. Hence also it is that we find among our mercantile rather than among our agricultural classes, the men who have contributed the most to the enlargement of our intellectual capital. The Greshams and the Childs of our earlier history have had eminent representatives in later times. Of the distinguished class to which we allude, perhaps the late Henry Thornton may be taken as the brightest example. Wise and practical in his professional pursuits, he combined with these a knowledge and industry which enabled him, as an author, to explain and recommend many important principles of economical science, and, as a member of the legislature, to defend and

apply them. His character was completed by the most active benevolence and the most exalted Christian principles. Mr. Henry Thornton's life still remains to be written; and his tracts should be collected and republished, for the instruction and the example of his countrymen. The late Mr. Ricardo also made the counting-house and the Stock Exchange tributary to his philosophical inquiries; adding to our knowledge by his valuable works, and displaying likewise a rare faculty of explaining abstract truths with clearness and precision, to a reluctant audience, whose understandings he must often have convinced, even when he might fail to influence their votes. Mr. Tooke, to whom we owe the memorable Petition from the Bankers and Merchants of London, has compiled, and illustrated in his 'History of Prices,' a series of facts for the guidance, not only of his contemporaries, but of all future generations. Lord Overstone, better known to our readers as Mr. Jones Loyd, is another striking example. His pamphlets on the Currency founded a school, and laid the basis of Sir Robert Peel's Banking Act of 1844. Without pausing to examine whether this theory is in all respects sound, it is admitted by all parties that the power with which the theory was recommended by its author was of a very high order; and to those who are familiar with the eloquence with which Lord Overstone can discuss and explain questions of economical science, it is undoubtedly a source of high gratification that his eminent abilities are, by the judicious favour of his sovereign, raised to a sphere where he will be enabled to add to the obligations he has already conferred upon the public.

Among the men we have named, Mr. George Norman, the author of the Treatise on Taxation now before us, is entitled to take a most distinguished place. In his position as a director of the Bank of England, also as an able writer on economical subjects, and more especially as a witness before parliamentary committees, he has acquired a high and well-deserved reputation. His writings and his evidence exhibit the accuracy of science without the pedantry by which science is sometimes disfigured. He states and argues, rather than dogmatises; he collects and furnishes the elements for judgment, and pursues his analysis clearly and accurately, without the least taint of intolerance or over-confidence. He betrays neither irresolution to support, nor readiness to compromise his own opinions, whilst his admirable candour and the ready consideration which he gives to the opinions of others, make him one of the safest, and most faithful, investigators of truth.

In his selection of the subject of this essay, and in his selection

of the present time for its publication, he has conferred upon us a double favour. The subject is important and interesting; it is ably treated, and at this precise moment its practical usefulness is greatly enhanced, because the arguments tend to refute many of the plausible but most dangerous fallacies which, as he himself well expresses it, 'form the stock in trade of the popular 'orators.' In the mansion which Mr. Norman still occupies, an ancestor of his formerly resided, a close neighbour to the great Lord Chatham. A house clock, with a loud bell, in the days of Lord Chatham, as at the present time, announces the hours to the whole neighbourhood. Tradition ascribes to Lord Chatham the saying, 'I set my watch by Mr. Norman's clock;' we very earnestly hope, in reference to the pamphlet before us, that many of our public men may, in this respect, adopt the practice of Lord Chatham. We have more confidence in the old clock at Bromley than in the modern works ordered for Mr. Barry's tower in the Houses of Parliament, or in those which measure time for the financial reformers of Manchester and Liverpool.

Mr. Norman most truly states that the three following propositions are repeated so often, and with such boldness, as to be received by many as undeniable, and almost as self-evident truths; and yet that on investigation each of them will appear contrary to the real fact, or at least resting on authority more than questionable. The three propositions are:—

1. That the amount of our public expenditure constitutes the great evil of our government, and seriously checks our national prosperity.

2. That our expenditure and our taxation exceed those of other large civilised countries.

3. That in comparison with such other countries, our government is wasteful and prodigal in its expenditure.

It may on first thoughts appear strange that, if these denunciations of evil are untrue, they should be so readily credited. This credulity may easily be accounted for. An Englishman is essentially, not only a cooking and a tailoring animal, according to the definition of man given by some philosophers, but in his special Anglican capacity, he is pre-eminently a grumbling animal. We go further: we believe that this grumbling habit, and the feelings from which it proceeds, are among the active causes of his progressive improvement. Discontented with his condition, he seeks to improve it. Finding fault with the constitution of his country, he vigorously but wisely reforms it. He quarrels with his house, and he rebuilds it in a better site and on a more commodious scale. The excellent Count Strzelecki observed, in his evidence before the Lords,

'the Irish soon improve in the colonies; they become quite as 'grumbling as the English themselves.' This observation displays a true knowledge of the national character. We love to believe that we are on the verge of ruin; and we readily attribute our supposed ruin to the legislature, or, to the government of the day. At a period also, when the ordinary causes of political excitement are fortunately, in great measure, wanting,—when no Waterloo is to be won by land, no Trafalgar at sea; when the Reform Bill has been carried, and the Corn Laws are repealed; when no one, but Mr. Wyse, 'fulmines over Greece;' and when we have no public men who will take the trouble of 'fluttering the Volscians,' or any other class, at Corfoli, or elsewhere,—the cry of national ruin is convenient to raise, and easy to propagate. He who proclaims it with the greatest audacity, 'is well aware,' as Mr. Norman observes, 'that he is touching a chord which vibrates in the 'national heart, and he scarcely attempts to prove that which 'no one thinks of denying.'

This ruling passion is so strong that not even the most obvious motives of self-interest will check it. A protectionist landlord takes all possible pains to persuade his tenant farmers that the cultivation of the land is profitless, and leaves no surplus. The inference follows of course—all payment of rents has become impossible. Nevertheless, he is astonished to be taken at his word, and to be truly 'hoisted with his own petard.' Some of our protectionist merchants would fain have us believe that they are trading to an absolute loss, and that, 'par raison demonstrative,' their names ought to appear in the Gazette. Our shipowners, even when they are extending their orders, and are laying new ships on the stocks, repeat their cries of alarm at the effects of Baltic competition. But such 'groans of the Britons' are, comparatively speaking, feeble, as only affecting particular classes. The cry against general taxation is, on the contrary, louder: And as it addresses itself to the whole community, it finds an appropriate echo. The belief that we are the most oppressed, worst used, and worst governed nation upon earth,—whilst it would be denied and resented as an insult, if expressed by a foreigner,—is adopted as an article of national faith, around our own hearths, at our public meetings, and in our Houses of Parliament.

In our number for April, 1849 (Financial Prospects), we endeavoured to refute some parts of this fallacy. Mr. Norman carries the reasoning further, and by instituting a comparison between the financial condition of England and that of the principal States of Europe, he adds to the point and force of his argument, and to the importance of his conclusions. It is

undoubtedly singular that we should be so mightily oppressed by taxation, when it is remembered that from the peace to the end of 1845 we have been enabled to remit annual taxes to the amount of 37,000,000*l.*;—a sum exceeding by 18,000,000*l.* the total amount of revenue received in the year 1792, the favourite standard of our most popular economists. This amount of repealed taxation exceeds, by more than 22,000,000*l.*, the whole revenue of Austria. It exceeds, by 17,000,000*l.*, the revenue of Russia, and by 27,000,000*l.* the revenue of the United States. It is about equal to the collective revenue of Prussia, Holland, Belgium, Bavaria, and the Peninsula. We quote from Mr. Porter's tables. The answer given by the man of learning to his presumptuous antagonist, 'I have forgotten 'more than ever you knew,' may well be parodied by Great Britain, in reply to this comparison with the nations of the Continent,—seeing that within twenty years we have repealed a larger amount of taxation than their governments have been able to collect.

Mr. Norman adopts certain opinions respecting taxation which we consider doubtful, though he supports them by reference to very eminent authorities. We doubt, however, when the whole scope of Mr. Mill's remarks on taxation are fully considered, whether Mr. Norman is entitled, in so unqualified a manner, to use him as one of his witnesses. It is true, indeed, that Mr. Mill states, in his work on Political Economy, that 'the whole of 'our public expenses may be said to be defrayed out of our over-'flowings, and our wealth is probably as great as if we had no taxes 'at all.' And Mr. M'Culloch, also, in the same spirit, observes, 'that but for the contests in which we have been engaged since 'the Revolution, the greater part of the wealth expended in 'carrying them on would never have existed.' The first branch of Mr. Mill's assertion, if it only implies that our taxes are paid out of income, and not out of capital, merely affirms that we have not based our finances on confiscation, at least in Great Britain; and that our taxation is not regulated by the principles which have governed the treasury of the Railway King. But he and Mr. M'Culloch go further: they both suggest that the necessity of paying taxes stimulates industry and thus encourages production. 'Taxes,' says Mr. Mill, 'subtract from the means, 'not of production but of enjoyment; since what is spent in 'taxes would, if it were not taken for that purpose, be em-'ployed in gratifying some want or taste which at present re-'mains ungratified.' This, in one sense, may be admitted: on the other hand, surely the gratification of those wants and tastes furnishes the strongest and most natural motives to industry. And among those tastes there will always be found

in England, and perhaps found mainly among the industrious classes, a desire of improving their condition by extending their transactions. Let us suppose that 5000*l.* are subtracted, as income tax, from the profits of a manufacturing firm. Surely there is a probability, amounting almost to a certainty, that, had there been no income tax, a large portion of this 'overflowing' would have been converted into capital, employed in extending the mill, in improving the machinery, or in otherwise augmenting the manufacturing stock. Can it be believed that a forcible diversion of capital to the purposes of the State will ever furnish so effectual a motive to exertion as the unrestricted power of applying the same sum at the free option of the party who has earned it? The whole hypothesis against which we contend rests upon a doctrine lately adopted, and too implicitly relied on — the supposed beneficial effects of artificial stimuli or goads. We are so heterodox and old-fashioned, as to kick against these pricks. The reasoning seems to originate in the misapplication of an undeniable truth. We fully admit that a protection granted to any class, even independently of its injustice to the consumer, fails, in the long run, to benefit the class protected. It is too much relied upon by the protected class. Torpor and sluggishness inevitably follow; as is the case even in most under-rented farms. Capital, also, is unnaturally attracted into the favoured line of industry, and a forced competition soon destroys the protection. The withdrawal of such protection is consequently called for, and is beneficial. But because the repeal of a bounty may be beneficial, it is far from a logical inference that the imposition of a tax will have the same effect. It may be right to cease administering a stimulant; it does not follow that we ought to draw blood. No Chancellor of the Exchequer, whether protectionist or free-trader, is likely, for the remote and paradoxical expectation of encouraging domestic industry, to propose doubling the property tax. No one but Mr. D'Israeli has given currency to a doctrine like this. We must therefore continue to consider taxes as *mala in se*, and to trust to the producer as a better accumulator and distributor of wealth than the exciseman. Even supposing this proposition to be defensible, it can only be admitted, that taxes may be regarded as stimulants to production, within certain limitations. We hardly feel called on to deal seriously with the statement that our war expenditure, during the last 150 years, can have been the cause of creating an equal amount of national wealth. This violent exaggeration rests on the supposition that the expenditure of the State is as profitable as the expenditure of individuals. In our times, the State does not reinvest much

of its surplus profitably. But the surplus income of individuals is, to a very considerable extent, productively reinvested. There is thus an increasing income produced in the one case, which is lost in the other. Going beyond this, the pressure of taxation on the payer is scarcely ever to be measured by the amount paid into the Exchequer. In the first place, we should add the whole expense of collection. In the second, we should also add the increased charge which Excise regulations cast upon the cost of production; and in the case of Custom duties, we must charge the interest on the duty advanced by the importing merchant, and necessarily carried forward with still increasing interest every time the commodity changes hands, till it finally reaches the consumer. A third inconvenience is created by the necessity of paying a tax not at the time most convenient, or when profits arise, but at the period fixed despotically by law. These observations are obvious, and have often been made; but, if true, they seem to refute the doctrine with which we have been called upon to deal.

But as we have already said, the doctrine, if true at all, can only be true within strict limits. Where any taxation, general or local, trenching upon capital, leads to the exhaustion of the stock,—as in some parts of the distressed unions in Ireland,—it cannot be questioned but that such grievous exactions must destroy, not stimulate industry. With sincere respect for the authorities to which Mr. Norman refers, we must therefore reject their doctrines, or at least must require far more accurate limitations to them than have been yet assigned them.

We are enabled to claim as authorities on our side Mr. Porter, and the facts which he has collected ('Progress of the People,' p. 477.) During the nine years ending with the peace of Amiens, taxes to the amount of 280,000,000*l.* had been levied from the people. Mr. Porter observes that many important interests were then in a state of apparent prosperity; but he adds, most truly,—'That this was no more than delusion, will be at once apparent to 'all who examine below the surface, and who inquire into the 'state of poverty and wretchedness into which the great mass 'of the people were then plunged. There had been some ad-'vance of wages, but to the skilled artizan only, and incommensu-'rate to the cost of the necessaries of life. The mere labourer 'did not participate even in this partial compensation. Nor could 'it well be otherwise. The demand for labour can only augment 'with the increase of capital destined for the payment of wages; 'and that capital, so far from being allowed to accumulate, was 'dissipated by the government expenditure more rapidly than it 'could be accumulated by individuals.' (P. 478.)

In these latter observations Mr. Norman fully agrees, as (p. 10.) he states, most clearly and emphatically, that if 'the expenditure of the State added to that of individuals exceed the 'national income, the aggregate capital—the fund destined for 'reproduction and for the permanent supply of the industrious 'classes of society—will be lessened.' We have already hinted that we cannot but think that Mr. Mill's high authority is claimed by Mr. Norman on insufficient grounds. 'The sources of prosperity may, as *some think*, be increased by the extra exertion 'made in our own country to compensate for the pressure of the 'taxes.' Such is Mr. Mill's very cautious statement. (Pol. Econ. ii. p. 440.) But he proceeds further, and adds, 'Taxes 'which fall on profits, even though that kind of income may not 'pay more than its just share, necessarily diminish the motive to 'any saving except that made for investment in foreign countries 'where profits are higher.' (P. 441.)

There is a mode of reasoning, or rather a test of progress, adopted by Mr. Norman more than once, from which we likewise dissent. We do this the more freely, because in this argument Mr. Norman seems to differ from himself. We reject altogether any estimate formed of the pressure of taxation by dividing the taxation arithmetically among the population, and producing a return of what is paid 'per capita.' We do not escape from this fallacy, even if it is granted that the proportion between the given amount of capital and the population is unchanged. The taxation of the poor district of Bethnal Green may represent a charge of 20*s.* a-head, and that of Lombard Street a charge of 100*l.*; and yet the lesser sum may be felt by the tax-payer as the heavier burden.

The standard which is thus shown to be fallacious, as applicable to space, is equally delusive in regard to time. It fails as between one country and another. It fails also, if we compare two different periods. It is neither to be depended on absolutely nor relatively. This Mr. Norman fully admits when he tells us that 'the Englishman, or Anglo-American, may, without 'inconvenience, contribute one pound to the national exchequer, 'when a Siamese, or an inhabitant of Madagascar, cannot pay 'even one shilling.' Yet we are surprised to find in several subsequent passages that he relies too much upon the very principle which he had previously discarded. The same fallacious mode of reasoning is adopted by Mr. Porter in the important, though, on this account, inconclusive table which he has compiled on the relative expenditure of European countries. Surely, the most correct mode of calculating the pressure of a public burden must seem to be,—to find the proportion existing between the

tax levied and the property on which it is charged. This calculation is difficult from a want of the proper elements. Even if attained it is liable to disturbance, according as property is distributed and as taxation is apportioned. The same amount levied by a capitation tax, or by a graduated property tax, will have very different effects; and the distribution of property appears to us almost as essential a condition of the problem as its total amount.

We now proceed to a part of our duty, which is more gratifying to ourselves than that in which we have been engaged; and, we hope, more gratifying likewise to our readers. We shall bring before them some of the important facts which Mr. Norman has collected, the able arguments which he has deduced from them, and the interesting and practical observations with which he concludes. Accuracy of statement, closeness of reasoning, and sympathy for his fellow men, are discoverable, rather than displayed, throughout the essay.

Does the existing taxation of England, Mr. Norman asks, seriously impede the progress of national prosperity, so far as prosperity depends on the increase of national wealth? The solution of this question will, to a very considerable extent, depend upon the fact,—whether, in times past, and when the amount of taxation was infinitely greater than at present, our national wealth was or was not progressive, or whether, if progressive, it advanced with greater or less rapidity. We believe, however, that Mr. Norman's conclusions are accurate in all that is essential, and are fairly deducible from the facts which he has collected.

The increase of the population since the peace Mr. Norman states, as being from 19 to 28. For the purposes of his argument we adopt his figures, and proceed to consider the evidence by which he proves, to our minds conclusively, how great has been the progress of our national resources.

The declared value of domestic produce exported in 1814 amounted to 45,494,000*l.*, from which if 20 per cent. is deducted for the depreciation of the currency at that period, the real value may be taken at 36,000,000*l.* In 1844 it had risen to 58,000,000*l.* The revolutionary movements of the Continent had in 1848 greatly reduced the powers of consumption abroad, and our trade naturally fell off, showing a decline to 53,300,000*l.* But in the year 1849, Mr. Norman estimates our exports at no less a sum than 60,000,000*l.*, — an amount which, however, has not been fully reached, as appears by accounts subsequently laid before Parliament, showing a declared value of 58,848,000*l.* only.

This, it should be remembered, is the real or declared value;

the official value of our exports, that which measures quantity, not price, and which is stronger evidence of the labour employed, has increased from 34,207,000*l.* in 1814, to 132,617,000*l.* in 1848, or nearly four-fold.

The number of our registered vessels and their tonnage has increased from 24,418, with a tonnage of 2,616,000, in 1814, to 33,672 and 4,052,000 in 1848.

The capital stock subject to legacy duty gives a fair index of the progress of personal property, and is calculated at 24,500,000*l.* in 1814, after deducting 10 per cent. for depreciation. In 1845 the same capital had augmented by more than 20,000,000*l.*,—exceeding 45,000,000*l.*; in 1848 it amounted to 47,462,757*l.*

We do not rely on the estimated value of personal property given by Mr. Porter as considerably exceeding 1,000,000,000*l.* This does not rest on actual proof. Nor do we require its aid in support of our argument, though we accept it as a strong probability, and by no means likely to exceed the truth.

The returns made under the property tax and the poor's rate valuations afford more certain data in relation to the real property of England. In Sir George Grey's admirable speech, in reply to Mr. D'Israeli, in the present session, the following statement was made, which supports the arguments of Mr. Norman, and the figures of Mr. Porter:—

	Value of rateable Property.
1813 - - - -	- £51,000,000
1842, 1843, 1844 - -	- 85,000,000
1845 - - - -	- 86,000,000
1846 - - - -	- 88,000,000
1847 - - - -	- 89,000,000
1848 - - - -	- 91,000,000

It is true that property is in later years rated more closely than formerly, and some allowance should be made for the change. This would not vary the result materially; for the increase shown of no less than 40,000,000*l.* annual rental, is without making any deduction for the depreciation of the currency, in 1813, which may fairly be estimated at 20 per cent. This deduction would be far more than an equivalent for the closer and more accurate valuations of the later years.

However unquestionable the inferences to which these figures lead, they are by no means the only evidence to which we can refer in proof of the progress of accumulation during a peace of unexampled duration. Mr. Porter calculates that 25,000,000*l.* of English capital have been invested in the canals, railways, and banks of the United States. Large foreign loans have also

been contracted, and 5,000,000*l.* transferred to the mines of South America and of Mexico.

We may also look to the British railroads as evidence of the rapid accumulation of wealth. The enormous sum of two hundred millions has already been expended in these works, and this within a few years; one hundred and forty millions in addition are pledged to the same purposes, and our capital has further extended itself in similar undertakings on the Continent, in India, and in our colonies. The receipts on our seven principal lines of railway exceed the revenue of many independent European States. We must guard ourselves from the supposition that we either suggest, or hold, the opinion that all these investments have been either wise or profitable. Our argument would hardly have been less applicable if this enormous capital had all been as unprofitably spent as the 50,000,000*l.* considered by the London merchants to be annually lost in bankruptcies, insolvencies, and useless and abortive speculation. We state the fact in proof only of growing accumulation; and it is plain that if the taxation of England had been so oppressive as is too generally stated, and too often believed, production must have been lessened and this accumulation have been checked. A belief that our country is more heavily burdened than other States, is irreconcileable with the undoubted fact that the conversion of income into capital is at the same time more rapid in Great Britain than in any other country, and is likewise progressive from year to year. These facts cannot but lead to the irresistible conclusion that a diminished burden of taxation is now levied out of a property steadily augmenting.

It is, however, true that in thus dealing with taxation as a whole, we do not touch upon the question of its apportionment; and it might be consistent with many of the facts on which we have relied, that injustice should exist and mischief be produced by an unwise system of taxation, even where the proportion between taxation and property seems favourable. It is true that this would speedily manifest itself in the check given to both production and accumulation,—results at variance with the proofs of British prosperity we have already mentioned. We are entitled to believe, therefore, that the amount of our taxation is not excessive, and that its apportionment is not impolitic. The practical conclusions at which Mr. Norman arrives, are,—that the positive reduction of British taxation, since the peace, has been 29 millions, or 36 per cent. on the total amount previously raised; and, —assuming our national wealth to have increased in proportion to our population,—he estimates the reduction at the higher amount of 53 per cent. Accordingly, a yearly sum of 119,000,000*l.*

levied at present is only equal to 81,000,000*l.* levied at the close of the war; and our existing average burden of 52,000,000*l.* cannot press more heavily on our resources than 35,000,000*l.* would have done in 1815,—when in fact we had to provide 81,000,000*l.* On these grounds we feel justified in the conviction that England is not crippled, in her powers of production and accumulation, by either the amount or form of the taxes imposed on her by the State, and—that she pays at present less than one half the taxation borne by her thirty-five years back.

Mr. Norman's second inquiry is both interesting and important. It cannot be otherwise than instructive to compare our condition with that of France and other European countries. This inquiry, however, is necessarily less determinate than that which referred solely to England. We possess some of the elements to compare France with herself at different periods; even these are imperfect; but we are still more deficient in what is essential to enable us to compare France with England. If we could prove the proportion between the resources and the burdens of both countries at any determinate antecedent period, then indeed the progress of each would furnish from time to time some evidence for the purposes of subsequent comparison. This is, however, wanting; and therefore the second branch of Mr. Norman's work can only be considered as an approximation to the probable truth. Yet as such it is no less valuable than curious.

We are called on to assume in this argument, that the ratio between the aggregate wealth of France and her population has been sustained since the peace. If we were in possession of all the facts bearing on the case, we much doubt whether this assumption could be fully maintained. The exhaustion of capital during a war of twenty-two years, and the effect of a law which leads to a continued repartition of property after death, cannot but have restrained the accumulation of wealth. The expenditure of 1815, 1816, and 1817 was enormously enhanced by the cost of the army of observation; consequently any comparison between these and later years, tending to show a progressive increase of taxation, cannot be challenged on the ground of any unfairness. On an average of those three years the expenditure of France was 41,000,000*l.* and the population of 1817 was 29,217,000. The average expenditure of 1845, 1846, and 1847 was 62,000,000*l.*; the population in 1846 had risen to 35,400,000; and in 1848 the expenditure had risen to 72,000,000*l.*

Thus, while the actual expenditure of England had fallen 36 per cent.,—and had fallen 53 per cent. upon the hypothesis that wealth had increased proportionally to her population,—the ac-

tual expenditure of France had risen more than 50 per cent.; and, as even on the supposition of resources relatively undiminished adopted in regard to England, the expenditure of France had risen 30 per cent. If then the two countries were proportionally taxed at the close of the war, it follows that England, as compared with France, is now taxed in the proportion of 47 to 130, or, in other words, that England pays 71 per cent. less of taxation than France.

This we believe to be considerably below the mark, if we consider taxation in its apportionment as well as in its gross amount; the impolitic manner in which some part of the taxation of France is levied greatly aggravating its pressure. Her unwise system of protection enhances all her burdens. It is calculated that on her consumption of iron alone, (an article becoming daily more important from the progress of railroads,) the increased annual charge to which she voluntarily subjects herself amounts to 62,500,000*fr.* or 2,500,000*l.*

Some allowance should probably be made in favour of France for the expenses which the French system of centralisation casts upon the State, but which are with us local charges. On the other hand, an addition should be made to the calculation by reason of that oppressive tax, the octroi; and also for the loss of wealth produced by the organisation of the National Guard, and for the interference with industry, which cannot fail to be the effect of the conscription. The octroi yielded at Paris, in 1838, 31,930,000 francs, and at Lyons, in 1830, 2,307,330 francs. Strange as it may seem to those who consider France a country of economy, Mr. Norman concludes that a Frenchman pays more than twice as much as is contributed by his grumbling English neighbour of equal wealth or income.

It is true that Mr. Norman is not able to produce the same mass of facts in support of this conclusion, as when dealing with the case of England only. He relies too exclusively upon the progress of population, coupled with the assumption that wealth has not diminished as compared with numbers, and that the productiveness of capital is undiminished also. We have already expressed our mistrust of this mode of reasoning; but we do not believe it has led Mr. Norman astray; we are inclined to believe his conclusions would have been the same, had he been in possession of all those facts which Mr. Porter's tables fail to supply. From among Mr. Porter's valuable documents there is one reprinted by Mr. Norman very significant in its bearing on this branch of the subject. It is the account showing the yearly difference between the national income and expenditure of France from 1814 to 1848. Of the twenty

last years it appears, that twelve have been years in which the expenditure has exceeded the income to the amount of 1,219,000,000 of francs, and eight of them years in which the income has shown a total surplus of 210,000,000. The balance of deficiency is consequently 40,360,000*l.* The nine last years have exhibited one unvaried and augmenting deficiency, in the following ruinous progression.

Average of 3 Years.	Total Deficiency of Income.
1840, 1841, 1842 - -	- 137,000,000 fr.
1843, 1844, 1845 - -	- 187,000,000 fr.
1846, 1847, 1848 - -	- 794,000,000 fr.

The rapidly increasing deficiency in each of the last three years is still more indicative of an alarming increase of general distress; which, unless arrested, can hardly fail to end in national insolvency.

The accounts stand as follows—

	Total Deficiency of Income.
1846 - - - -	- 157,000,000 fr.
1847 - - - -	- 307,000,000 fr.
1848 - - - -	- 330,000,000 fr.

We sincerely wish that we could take a more encouraging view of French finance. We regret that we cannot do so, for the sake of that great country itself, on the prosperity of which our own well-being and the peace of Europe so greatly depend. But if she wishes to keep her high position among nations, she must adopt wiser methods, and rely on more trustworthy help than can be found in Bank advances, inconvertible paper currency, loans, or a protective system. For these, France must substitute, out of plain regard to her own safety, a severe economy, and a wise and liberal system of taxation. Then and then only, can we expect a full and intelligent developement of the immense natural resources of France. With this view she must, above all things, eschew war, and reserve her military power for the maintenance of order,—on her maintenance of which her very social existence depends.

Mr. Norman's comparison between the financial condition of England and of other foreign Powers is slight and inconclusive; resting mainly, and (except in relation to the United States) almost exclusively, on Mr. Porter's valuable statistics in the 'Progress of the Nation.' The following table, though formed on a principle which we have already condemned, is however of interest; and may indeed enable our readers to pursue the matter further, and to collect better data for their guidance.

	Population.	Revenue.	Charge for Public Debt.	Charge for Army, &c.	Taxation per head.	Taxation per head exclusive of Debt.
		£	£	£	s. d.	s. d.
Austria -	35,800,000	15,154,000	6,700,000	5,000,000	8 6	5 0
Bavaria -	4,500,000	3,173,000	874,000	731,000	14 1	10 2
Belgium -	4,335,000	4,704,000	1,272,000	1,597,000	21 8	15 10
Spain -	12,386,000	12,577,000	1,269,000	3,633,000	20 0	18 8
France -	35,400,000	54,293,000	15,143,000	17,768,000	29 7	22 1
Portugal -	3,745,000	2,968,000	868,000	908,000	15 10	11 2
Holland -	3,200,000	5,964,000	3,027,000	972,000	37 3	18 4
Prussia -	16,000,000	9,905,000	1,404,000	3,865,000	12 4	10 7
Russia -	54,000,000	20,000,000				
United States	20,000,000	9,959,000	723,000	8,600,000	10 0	9 8

We must remember, as some deduction from our contentment in Mr. Norman's view of the condition of the British Empire, that he has omitted all special consideration of the position of pauperised Ireland. This suggests some doubts in respect to his general conclusions; unless it be assumed that the two islands, and their interests, are so thoroughly identified that we are warranted in considering them as a whole. We cannot so far flatter either of the islands, we cannot so far flatter ourselves or Parliament, as to believe that they can be thus considered. On the contrary, we greatly fear that the misfortunes of Ireland, and the legislation of the last five years, have produced a severance in interest and in condition, which it will be most difficult to remedy, and yet which, if continued, can hardly fail to lead to increased and increasing calamities affecting the general resources of the Empire. Scarcely one of the elements from which Mr. Norman traces the proofs of prosperity in Great Britain are discernible in Ireland. We unhappily find there the very reverse; and though much of the distress of Ireland arises from famine as a primary cause, yet its formidable intensity, its extension, and the risk of its perpetuation, are occasioned mainly by ill-considered though well-intentioned laws. In a country where real property constituted, even in the most prosperous times, thirteen twentieths of the national wealth, — real property has been depreciated in value by 30 to 40 per cent., whilst taxation has increased in a still more alarming ratio. We could name a southern county, not included in the distressed districts, in which the local burdens have in four years increased four hundred per cent. In a country where house property is lamentably deficient, — rates (thrown exclusively on the landowner, even in cases in which no rents are paid,) have produced the destruction of innumerable cottages, as well as of houses of a better description. The same measures have led to the eviction of

tenants, and the multiplication of paupers, over districts whose insecurity and wretchedness have been among the most active causes of crime, — thus adding to those lamentable causes, and to their fatal effects. Capital and industry are forcibly driven out of a land, which the better description of emigrant farmer quits in despair, unable to cultivate its soil with any hope of profit. Although the encumbered state of landed property in Ireland had long been felt to be a most serious obstacle to improvement, and has been latterly held a justification for a 'rough and 'ready' measure facilitating the transfer of property in that predicament, — on the other hand, encumbrances have been largely created by Act of Parliament, even upon well-conditioned estates. The accumulation of uncollected rates cast upon the land itself as a primary charge, and the owners rendered liable for debts contracted not by themselves, but by others, are enactments, by which the Legislature, in seeking to bind property to its duties, has brought its rights and almost its existence in some instances into danger. In a community where the increased production of food and increased demand for labour were most required, our laws have converted hundreds of thousands of acres into desolate wastes; and where the want of a resident gentry was most complained of, a widely spread insolvency has been extended among that important class. This formidable and rapid progress of evil in Ireland must weaken some of Mr. Norman's conclusions. If we persevere in a course, condemned on its introduction by the authority of science, and now unequivocally condemned by subsequent experience, we may live to see a country lying within four hours' sail of our shores, and containing in 1841 a population of 8,000,000, become by degrees one great pauper warren, our burden and our reproach, and the most pressing danger to the prosperity of the empire.

Mr. Norman's inquiry would have been incomplete, if he had not adverted to the spirit of economy evinced by the Government of this country, compared with that of other States. If the popular faith in the excess of British taxation is strong, at least equally strong is the belief that all successive Governments are reckless and extravagant. Now it should ever be remembered, that to believe this is to suppose that men in office, subject to the responsibility of a reformed representative system like ours, are disposed to act contrary to their own most direct interests. The administration of the day, however composed, necessarily loses more in weight and power, by any attempt to keep up an excess in our establishments, civil, or military, than they can gain by the possession of any amount of indefensible patronage. In Miss Edgeworth's 'Castle Rackrent, Sir Condy, when pressed to shave a second time in the same

day, readily complied with the desire, on the principle of 'doing 'anything for peace and quietness.' So it is frequently with Governments. They are at times but too much disposed to act on Sir Condy's principle. High estimates, heavy taxation, and unpopular votes are precisely those contingencies, which preclude all official 'rest and quietness.' They also undermine political power; and even if we adopt the most selfish theory of ministerial morals—if all sense of public duty, all personal honour, all regard for the character of a political party, and all conscientious obligations, are believed to be necessarily surrendered on kissing hands, and accepting the seals of office,—yet, no very dangerous tendency towards extravagance can now be apprehended. Successive Cabinets have shown themselves ready, at the suggestion of the House of Commons, to pare down the public establishments to their narrowest limits. We have occasionally seen this done, to the ultimate pecuniary loss of the country, which has been compelled, in subsequent years, to pay a heavy penalty for a false, because an ill-considered, economy.

But, although the economical progress of our Government has been arrested by the Canadian insurrection, by our Indian wars, by hostilities in China, by Kaffir inroads upon the Cape, and still more by certain extravagant tendencies in Parliament itself,—much good has been already effected in this direction; however apt the public are to forget it: Also the conduct of the Government, in the last year more especially, proves that we are steadily advancing in the course of retrenchment: A retrenchment which we believe may, and indeed are confident must, be carried still further.

We refer to our former article on this subject*, to prove how much of the increased expense of modern times is attributable to Parliament itself; and how much also to a just and honourable endeavour by the Government and by the Legislature in the performance of high duties, formerly undervalued and neglected, and in the correction of abuses which public opinion will no longer tolerate. The morals, the education, the physical comforts, the health, the very pleasures and amusements of the people, are no longer overlooked. The supervision of poor-law administration; an inspection of our factories, of our mines, of the safety of our steam-boats and railroads; the registration of births, marriages, and deaths; the commutation of tithes; the enclosure of our commons; the superintendence of our emigration,—are all undertaken as new but expensive duties. Yet after providing for all these services,—services of which

* Edin. Rev., April, 1849. Financial Prospects of 1849.

Pitt and Fox as little dreamt as Sir Robert Walpole or Secretary Cecil,—we find that our former anticipations of efficient reductions are realised in the financial arrangements of the present year. Comparing the expenditure of 1848 and 1849, this decrease has been as follows:—

	1848.	1849.	Diminution.
Army -	6,647,000	6,549,000	98,000
Navy -	7,922,000	6,942,000	980,000
Ordnance -	3,076,000	2,332,000	744,000
Miscellaneous -	4,092,000	3,911,000	181,000

We thus have effected a saving of upwards of two millions on our ordinary expenditure, besides a further reduction of 1,100,000*l.* by the cessation of an extraordinary charge. In the first of these years, the expenditure had exceeded the income by 796,000*l.*; in the latter, the excess of income is no less than 2,098,000*l.* In January, 1849, the balance in the Exchequer was 8,105,000*l.*; in January, 1850, it had risen to 9,748,000*l.*

It is true that neither the annals of France nor of any other European country can exhibit so enormous an accumulation of debt as that which arose in England from 1793 to 1814; but, on the other hand, we learn from Mr. Porter's tables, that since the peace the following satisfactory results have taken place:—

	Excess of Income over Expenditure.
12 years ending January, 1828 -	- £29,231,765
9 years ending January, 1837 -	- 16,854,536

And even in the last thirteen years, during which the state of Ireland, and other unforeseen demands, have produced an increased expenditure, and when a large amount of taxes has also been repealed, the income received has been 655,594,904*l.*, equalling our expenditure, within the small sum of 320,585*l.* We have already pointed to the continued and augmenting French deficiency during the same period.

The annual charge of the debt, funded and unfunded, including annuities, amounted in 1815 to 32,938,741*l.*, and for the year 1849 to 28,323,961*l.* These figures represent a diminished burden, exceeding four millions and a half. But, the charge in 1849 included 3,924,000*l.* for terminable annuities, of which 3,338,000*l.* will expire in 1864 and the balance in 1867. Thus, in about seventeen years, without assuming any increase of income, or any further operations for the payment of the principal, or the reduction of the interest of the debt, the annual charge must necessarily be reduced by one-seventh,—a sum more than sufficient to enable Parliament to deal with all that is most objectionable in our system of taxation. And the annual saving effected

in about half a century will amount to nearly nine millions sterling, representing at 3½ per cent. more than a capital of 250 millions.

If our space permitted, we could have wished to carry further the comparison between the Finance of England and that of foreign countries.' We could have wished, more especially, to compare our military expenditure with that of continental States. It would not have been difficult to show how much more moderate our expenditure is than theirs; more especially if we take into account the effect of a conscription in France, and add the charge which the National Guard occasions, not in money account, but in the loss of time and loss of productive labour consequent on such a service. Even among our republican brethren beyond the Atlantic, Mr. Norman considers that if they are charged, in like manner, with all the results of their militia service, the United States cannot claim any great economical superiority over the old country. Their Mexican war will, we hope, contribute to impress on their minds, as strongly as Mr. Jay and their wisest fellow-citizens can wish, the salutary lesson, —that aggressive wars are as dangerous to the finances as to the character of States; and that conquest is one of the costliest and least profitable pursuits in which either a monarchy or a commonwealth can engage.

Mr. Norman estimates our colonial expenditure at above 4,000,000*l.* We believe this to be somewhat above the range of our permanent expenditure, as defrayed out of British revenue; after deducting the cost of such interludes as Caffre wars and Canadian insurrections. Assuming the figures to be correct, the comparison between our colonial charge and that of France, the only European country to which it is needful to refer, is disposed of by the following quotation from M. Thiers' last report. He thus describes the relations between France and Algeria:—'La 'France *que Dieu semble avoir destinée à ne se reposer jamais, 'même dans la paix*, la France a su accomplir la seule grande 'chose qui se soit faite depuis trente années. Elle a soumis, et 'elle a commencé à civiliser un vaste empire, le mieux placé 'pour elle qu'il y eut sur la terre, et on peut l'espérer, empire 'plus solidement assuré que les conquêtes perdues à Leipsig et 'à Waterloo.' It must require a full faith in this assertion, to reconcile the French tax-payer to the price which the ex-minister of France admits to have been paid for these African glories:—'Pendant vingt ans on lui a dit de ne pas trop s'en-'gager, de ne dépenser ni trop d'argent ni trop d'hommes; '*et n'examinant point si on avait raison ou tort*, conduite par 'un instinct irrésistible elle a envoyé en Afrique jusqu'à cent 'mille soldats, dépensé jusqu'à cent millions par an. . . . .

'*Elle a persévéré vingt années sans être assurée d'un profit quel-*
'*conque.*' We have hitherto been accustomed to regard M. Thiers as a very eloquent man, but we are now almost inclined to consider him in the new character of a master of sly sarcasm and irony. Whatever be his motive, the facts he states are sufficient for our purpose. They will fully enable our readers to compare the colonial budget of England with that of the only European country which admits of such comparison; and we venture to anticipate that even the most critical of our colonial reformers must admit that on the score of expense, no less than in the value of our colonies, we have no reasons to look with envy at our neighbours. To those who extend their thoughts beyond the present, and who do not consider it inconsistent with prudence and philosophy to calculate the future; to those who are of opinion that value exists in reversion as well as in possession; to those who believe that the infancy and youth of States may be feeble and costly, whilst their progress and maturity may be largely profitable; to those who think that a balance-sheet does not afford the only solution to public questions, and that duty and honour are more enduring as well as more sacred bonds than mere profit and loss, the comparison between the British colonies and Algeria may not be unimportant. If there remain any considerable number of sceptics on the present and the future value of colonies, as many as are open to conviction should be converted into true believers by one practical experiment. Let the Government and the Legislature apply themselves seriously to the question of Emigration, and even if the annual cost of our colonies were as high as it is estimated by Mr. Norman, or even double that amount, the expenditure might be not only nationally justified, but nationally repaid. The most valuable of all possessions, the most profitable of all investments, would be such as raise new markets for our manufactures, like those of British North America and Australia, and supply us with valuable and rapidly increasing produce in return,—affording us both safe asylums, and pleasant homes for our surplus population, adding not only to our wealth but to our happiness, and diffusing our liberties, our laws, our literature, our domestic and moral habits, and our religious faith, over the most remote portions of the globe.

We must not, however, blind ourselves to some important considerations on which we are compelled to touch before we close, and to which we might have wished that the high capacity and generous sympathies of Mr. Norman had been more distinctly applied. It is most true that from his able analysis of our condition he may with confidence infer the progress of our

wealth, and the comparative lightness of our burdens. He may also very justly conclude that a majority of our fellow subjects have acquired, and are still acquiring, a larger command over the comforts and necessaries of life. A house or cottage, as now rebuilt, is fifty or one hundred per cent. more commodious than that for which it is a substitute. The new school or the new church, if less picturesque than the ruined building which it replaces, is in every important particular preferable. Better clothing, furniture, food, miraculous powers of locomotion, are brought within the reach of classes whose interests were comparatively little thought of and ill-provided for in former times. Above all, knowledge and religious instruction are rapidly extending their genial and vivifying light. Mr. Norman may point out innumerable consolatory facts in support of his conclusions, and boldly say to his opponent,— *Si argumentum quæras, circumspice.* But, unfortunately, whilst many classes are improving, there is one unhappy class or more, of which we cannot ignore the existence. We are unwilling to designate them '*les classes* '*dangereuses,*' as they are termed in France. Some of these, it is true, may be prepared for crime, but they are in many cases prepared for it by want,—*malesuada fames,*—acting upon ignorance. This class is numerous and restless. It is full of discontent both personal and social. The very wealth and prosperity which are rising around them on all sides suggest exciting contrasts. The acuteness of intellect to which our irregular civilisation has given an edge and a direction equally mischievous, the sensibility to wrong and suffering which is necessarily a part of it, the political activity with which false theories have been propagated, the eagerness with which they have been embraced — these, with the sad estrangement which selfishness and fastidious refinement have created between the different orders of society, have produced, or cast forth, from among us a race of Pariahs whom we dare not forget, even though the statistics of trade are favourable, and bullion has accumulated in the Bank. Mr. Norman is too wise not to know this well. We could have wished that he had brought more distinctly before his readers the fact, that there are two sides even to a ripening peach. He touches on the subject truly and feelingly; but yet he tempts us to walk too exclusively in the warm and cheerful '*mezzo giorno*' of the path of life. There are undoubtedly, on the other hand, many writers, of a different school, who seem to delight in representing all that is dark and alarming. Of this the first number of 'The Latter Day Pamphlets' is a very striking example. Of that publication we cannot say that 'the sun shines bright 'on merry Carlyle.' The blue lights, the sea signals of distress,

or the glare of coloured resin, the decorations of the last scene of a pantomime, seem the author's favourite mode of illumination. His graphic and powerful exaggerations resemble the descriptions which a Yankee is said to have given of his favourite horse. 'Sir, he is all thunder and lightning, with a dash of 'the earthquake in him.' If we understand aright what this extraordinary pamphlet means, we are called on to believe that we have fallen amid 'days of endless calamity, disruption, 'dislocation, confusion worse confounded,' which, 'if they are 'not days of endless hope, are days of utter despair.' We cannot subscribe to this article of faith, neither can we admit that our 'Government is tumbling and drifting on the whirl-'pools and mud deluges, floating atop in a conspicuous manner, 'no whither, like the carcase of a drowned ass,' or that 'au-'thentic chaos is come up to this sunny Cosmos, and that all 'mankind are singing Gloria in excelsis to it.' Though not speaking the same language, much more to the purpose are Mr. Norman's admissions of the existence of evil even amid growing prosperity. He points with unaffected sympathy to 'the 'quantity of suffering arising from poverty, painful to the eye 'of humanity, and the more keenly felt by those who endure it, 'because they see more clearly than formerly the luxury of 'those above them, and are more fully persuaded that their 'sorrows and privations arise in a great degree from the cruelty 'and selfishness of the possessors of power. We have in full 'activity the struggle between those who have and those who 'have not, which has existed in one shape or other since the 'institution of property.'

To this source Mr. Norman traces the opposition raised to the reform of the English poor-law. To the same cause he may, with equal truth, trace the arguments adduced in favour of the wide-spread desolation created by the system of out-door relief in Ireland. We have offered bounties upon pauperism, and are astonished that paupers multiply. We have cast an unlimited weight upon property, and we express our surprise that property can hardly sustain the burden. We neglect to relieve our seats of teeming population from their disproportionate numbers, and then think it extraordinary that the numbers should corrupt and fester. We refuse our colonies the industrious emigrants whom they demand, and whom we could so well spare, and we force upon them the convicts they reject,—until our colonists have been seen enforcing their rejection by means of a resistance unparalleled in its violence and harshness, and inconsistent with order and with law. Whilst all thinking men admit and deplore the leeway which still remains to be made up

in the work of education, zealots and fanatics are disputing about 'management clauses' and demanding the extension of episcopal power over English grammar and the multiplication table. Lamentable as is still the deficiency in the means of religious instruction, we have bishops who are embarrassing the consciences of their clergy, by a closeness of definition in mysteries which it has not pleased inscrutable wisdom distinctly to reveal; and clergy who are debating on prevenient grace. What should we think of any other nation, where such follies were withdrawing it from the performance of obvious and pressing duties?

The unlimited promises held out by our laws for the relief of destitution, compared with their incomplete performances, add to all these mischiefs. Men deprived of proper guidance are left exposed to fatal impulses. The truth, which a still higher authority than Mr. Norman's also teaches, is not impressed on their minds, but the very opposite doctrines. 'That man shall live 'by the sweat of his own brow, and not upon the industry of 'others,' is His declaration; 'that weal or woe, even in this 'world, must depend on our own conduct; and that to take 'property forcibly from its possessors and to bestow it on one 'great corporation formed of all the members of society, is the 'surest way to destroy it. It is easy to plunder the rich, to 'make them poor; but in so doing to make all the poor rich is 'a result which neither legislative skill nor despotic power can 'effect.'

It is a remarkable coincidence that, contemporaneously with Mr. Norman's enunciation of the true principles on which the well-being of the labouring classes so mainly rests, the same subject of relief for poverty should have been discussed in the report presented to the French legislature by M. Thiers. Though there are parts of that able report which may be questioned, yet it is impossible not to admire its precision, its clearness, and the truth with which important general principles are set forth. In many particulars this report confirms, and is almost identical with, the opinions we have quoted from Mr. Norman.

'Si l'état donnait au-delà de ses moyens pour soulager les misères d'autrui il serait coupable, car l'état ne peut pas être imprudent; il serait spoliateur, car l'état ne donne pas comme l'individu son propre bien: il donne le bien de tous; et comme dans l'impôt il entre la contribution des pauvres, et des pauvres plus que des riches à cause de leur nombre, il prendrait à certains pauvres pour donner à certains autres, ce que serait non seulement injuste, mais absurde et déraisonnable. Les notions de justice doivent prendre place ici à coté des notions de bienfaisance.' (P. 12.)

M. Thiers, in a further passage, explains, with greater dis-

tinctness, the dangers which he anticipates from misapplying the principles which ought to govern the relief of destitution:—

'Hors les cas exceptionels la société qui voudrait, à quelque degré que ce fût, se charger du sort d'une partie de ses membres, en ferait des oisifs, des turbulents, des factieux, au dépens de tous les citoyens laborieux et paisibles auxquels le même privilège ne s'appliquerait pas. *Elle périrait sous la ruine financière* et la violence des factions encouragées par l'oisiveté. Une partie des citoyens, et la meilleure, payerait de ses sueurs les loisirs de ceux qui bouleverseraient le pays, et contribueraient à le plonger dans la misère.' (P. 32.)

We have pressed upon this subject because we believe it is from the condition of the distressed classes, rather than from the state of our finances, that national dangers can arise. We apprehend no risk from any permanent excess in the national expenditure. Army, navy, and ordnance contain within themselves their own natural limitations: and wakeful eyes are on them. The Customs and Excise will, we doubt not, exhibit a reasonable and steady increase. But if the whole property of a country is to be considered as mortgaged to a purpose without limit,—if the owner and occupier are to be considered but as possessors holding jointly with those who do not labour, and who employ no capital,—then we apprehend that it is in vain we find our wealth bearing a favourable proportion to our people: we shall soon discover, to our cost, that the breakers are ahead; the perils from which England was only rescued by the enactment of the new poor-law will again be visible in the wasting of her resources and the annihilation of her industry. We urge this the more strongly because we believe that on this question,—that of the labour fund,—the interests of the poor are fully as much at stake as those of the rich. We believe also that it is in vain that our State expenditure, as compared with our productive capital, may be less than that of other European communities, if we assume a burden such as no other State sustains in an equal degree,—a burden capable of undefined extension and devouring that very capital on which it relies for support.

We do not shrink from confessing our belief that it is neither on any great, or, as we should term it, a rash repeal of taxation, that we rely for progressive improvement or permanent security. Neither do we trust to the possibility or the effects of any great curtailment of our expenditure. We do believe, however, that our expenditure may in some respects be better applied. Much has been spent,—perhaps we might say wasted,—in lavish military works, or ill-considered dock-yard experiments, rashly undertaken and indiscreetly persevered in. In case it had been applied to all that could raise the condition of our people, pro-

vide for their health, add to their physical comforts, increase their intelligence, improve their morals, and diffuse among them the blessings of religious truth and guidance, it would have been more economically, as well as wisely, appropriated, than even if absorbed by the repeal of the duty on the advertisement by which this publication is announced, the excise on the paper on which we are writing, or the stamp on those useful journals, in which we reviewers often profit by finding ourselves reviewed. We believe also, without undervaluing or being culpably indifferent to political progress, that after the stability conferred upon the State by the Reform Bill, and the impulse given to our industry by what we may now term the complete freedom of trade, no questions of domestic economy or of finance are so important as such reforms, and, we must add, such a wise expenditure as will tend to improve the physical, the moral, and religious condition of our noble, enduring, and industrious population.

ART. VII.—1. *The Village Notary. A Romance of Hungarian Life.* Translated from the Hungarian of BARON EÖTVÖS, by OTTO WENCKSTERN. With Introductory Remarks by FRANCIS PULSZKY. 3 vols. post 8vo. London: 1850.

2. *Memoirs of a Hungarian Lady.* By THERESA PULSZKY. With an Historical Introduction by FRANCIS PULSZKY. 2 vols. post 8vo. London: 1850.

3. *Genesis der Revolution in Oesterreich, im Jahre* 1848. 8vo. pp. 418. Leipzig: 1848.

4. *Ungarns Verfassung.* Beurtheilt von Dr. J. WILDNER, Edlen von Maithstein, Indigena von Ungarn. 8vo. pp. 130. Leipzig: 1849.

5. *Ludwig Kossuth und Ungarns neueste Geschichte.* Von ARTHUR FREY. 3 vols. med. 8vo. Mannheim: 1849.

6. *Enthüllungen aus Oesterreich's jüngster Vergangenheit.* Von einem Mitgliede der linken des aufgelösten Oesterreichischen Reichstages. 8vo. pp. 282. Hamburg: 1849.

7. *Ungarn und der Ungarische Unabhängigkeits Krieg, nach den besten Quellen und zahlreichen Mittheilungen Ungarischer Notabilitäten dargestellt.* Von Dr. A. SCHÜTTE. 2 vols. 8vo. Dresden: 1850.

8. *Die letzten Tage der Magyarischen Revolution. Enthüllungen der Ereignisse in Ungarn und Siebenbürgen, seit dem* 1*sten July,* 1849. Von ALEXANDER SZILAGYI. Leipzig: 1850.

9. *Letters from the Danube.* By the Author of 'Gisella.' 2 vols. post 8vo. London: 1847.

10. *A Voice from the Danube; or the True State of the Case between Austria and Hungary.* By an Impartial Observer. pp. 212. 8vo. London: 1850.

THE German books on Hungary, whose titles we have prefixed, are to be had in London. They will direct the reader to new sources of information, and to various points of view. We propose at present to introduce him only to the Village Notary and the Hungarian Lady, in their English dress. The nationality of its people, their martial prowess, and present unhappy fate, have invested Hungary with the interest of a second Poland: and Western Europe must be naturally desirous to learn something of their civil and social life. We wish the picture were a pleasanter one.

As compositions, neither of the works which we have selected stands on the level of 'high art.' Their authors are not inspired by that abstraction, which metaphysicians are pleased to call 'the beautiful.' Baron Eötvös was a member of the Hungarian Opposition; and, in the eventful summer of 1848, he filled a post in the Batthyany Cabinet. Madame Pulszky is the wife of a gentleman who was at all times a zealous supporter of Kossuth's measures. It were, indeed, an anomaly, if the productions of persons who played a conspicuous part in the late Hungarian troubles were without a strong leaven of politics. Of such works we could not, even if we would, separate the spirit from the form. They were written for political purposes. The intention which pervades their every line, the maxims which they inculcate, the opinions which they profess, and the tendencies which they encourage, necessarily exclude that absolute indifference, that neutral 'objectivity,' which the votaries of high art persist in demanding. Neither of our authors can boast of possessing the dry repose and imperturbable equanimity which some of our German neighbours extol as the *acmè* of literary perfection; although Göthe, their prototype, marks those qualities strongly enough by making them the characteristics of his spectral Sphinxes. Nor do either Baron Eötvös nor Madame Pulszky take a panoramic view of the scenes which they attempt to portray. On the contrary, we find them, in the very midst of the contending factions, treating of the subjects nearest to their hearts with all the enthusiasm which belongs to noble minds, yet with more moderation than we, in reason, could have expected.

We shall best learn the special moral of 'The Village Notary,'

and the circumstances in which it originated, from M. Pulszky's Preface. The Opposition to the 'Paternal Absolutism' of the Austrian Camarilla was divided for some time, it seems, into three parties. One, the party of agricultural and material improvements, was led by Count Szechenyi; another, that of legal and parliamentary reforms, was led by Kossuth; Joseph, Baron Eötvös, headed the third. The object of this third party was a new political fabric, founded on natural rights and on the principle of centralisation under a free parliamentary government, in the place of the ancient county institutions. But, the popular instincts of their countrymen ran counter to these innovations. Quitting parliament, therefore, for a season, the Baron amused himself in his retirement by writing a sketch of life in a Hungarian province: 'in which he put together a variety of 'small sketches and studies from Nature, and formed them into 'one grand picture; for the express purpose' (continues M. 'Pulzsky) 'of caricaturing the political doings in our country. 'But, fortunately for the public, Baron Eötvös was a better 'poet than a politician; and his political pamphlet ripened, very 'much against his will, into one of the most interesting works 'of fiction that the Hungarian literature can boast of. His 'book was eagerly read, and enthusiastically admired.'

A novel written under these circumstances, and for such a purpose, and—notwithstanding any over-colouring of the defects of their provincial institutions,—enthusiastically admired upon the spot, and now translated, we understand, at the suggestion of M. Pulszky, must have enough of local truth in it, to entitle it to a higher place than that of a mere literary novelty in the eyes of English readers.

Travelling in Hungary in 1806, Bishop Heber observes in a letter to his mother, that 'there are few countries, where an 'Englishman could obtain so much important information as in 'Hungary, the constitution of the government of which is a 'complete comment on the ancient principles of our own, as 'low down as Edward the Third. . . . Like England (he adds) 'Hungary everywhere shows the deep scars of her former civil 'disturbances. Every county town has its ruined walls.' Yet, however curious it may be to go back with the good Bishop for resemblances between the present Hungary and the former England, the spectacle of the contrast which the two kingdoms are now exhibiting, is only made by it the more painful. It will not lessen our sympathy, to think that, as it is with the people of Hungary, it might have been with us. Let us only imagine our country ever since the fourteenth century to have been the battle-field, on which Turks, Czechs, and Styrians contended for

supremacy,—that our princes had been able to lean upon the sword of a neighbouring monarch,—that we had imprudently put a King of France upon the throne of England,—that our armies had been sacrificed on a foreign soil, to establish there a power which was to be turned against us in our own,—that improvements had been checked, justice perverted, abuses fostered,—that public virtue had been discountenanced and self-seeking servility loaded with wealth and honour,—is it certain that the fortunes of the two countries would at this day have been so utterly opposite as they now are, and their histories alike only in the records of their early constitution, their common patriotism, and their common valour?

The cloud, which is hanging over that ill-starred country, is felt by its inhabitants to have settled on the very face of Nature. The weary journey of the Jenny Deans of Walter Scott was almost on as sad an errand as that of our author's Susi, the outlaw's wife. But what opposite feelings are summoned up along the boundless plains of melancholy Hungary, to those which were recalled by the rural landscape of merry England!

'"The Hungarian's joy is in tears," says the old proverb: And why not? Since the features of the parent tribe are handed down from one generation to another, there is nothing more natural, than that we should retain the *historical* features of our ancestors, viz. the stamp of gravity which the events of their time impressed upon their faces. The Hungarians of old had good cause for weeping. Other nations have recovered from the wounds of their past; and however sad their popular melodies may be, (for they spring from a time of sorrow and sadness,) the lamentations of the old text have given way to merry words. But the lower classes in our country have very little to laugh at, even in these days of universal prosperity. Their songs are sad, as they were in the days when the crescent shone from the battlements of Buda. For there are people who are ignorant of all history, but that of their own village; and who, consequently, have no idea that there has been any change in our country ever since the expulsion of the Turks. The peculiar gravity which characterises the Magyars is partly an historical reminiscence, and partly the result of that gloomy tract of our country which is chiefly inhabited by the Magyar population. What traveller can traverse our vast plains, and keep his temper? The virgin forest, which at one time covered that plain, is gone: the impenetrable foliage which overshadowed this fertile soil, has fallen under the axe. The many-voiced carol of birds, the merry spirits of the greenwood, where are they? The forest land has become a heath; but we have little cause at rejoicing at our victory over Nature. The inhabitants of other countries see many things to gladden their hearts. Houses, trees, hedges, corn-fields, reminding them of the thrift of their ancestors, spur them on to increased activity, and inspire them with a desire to

fashion the land into a monument of their existence. Our Puztas have nothing of the kind. All is silent and desolate, filling the mind with sad thoughts. Many generations passed over them without leaving a trace of their existence; and the traveller, as he pursues his solitary way across the heath, feels the mournful conviction, that he, too, steps onward to his grave,—that the plain will cover him as a boundless ocean.'

The scene of the story is laid in the county of Takshony; and county politics in their most violent and sordid form occupy as prominent a place in it, as M. Pulszky's preface would lead us to expect. We are taken successively by the natural course of events to that great theatre of provincial excitement and intrigue,—the triennial election of the county magistrates; to the ignorant and partial administration of justice,—in the proceedings before the *statarium* or special commission, under which the Palatine could at any time proclaim a county for a twelvemonth; to the blind and brutal indifference of the executive, as shown in the filth and misery and recklessness of their gaols. The two figures, round whom the principal interest revolves—Tengelyi the notary of Tissaret, and Viola an outlaw—are intended to personify, in the notary, the broad distinction which separates the nobleman, or, in other words, the freeman, from the population at large; and in the outlaw, the daily and intolerable oppressions to which the population at large is subjected, and by which some of them, and those very far from the worst, are infuriated into crime. Tengelyi is a man of far too virtuous and stoical a cast not to be hated by officials, such as popular or class election is here described to have returned. Together with his own papers—the evidences of his free descent—he had unfortunately charge of papers belonging to his friend Vandory the curate, which would show that Vandory was in truth elder brother to Rety, the squire and sheriff, and, as such, entitled to the family estate. The possession of these papers is the pivot on which the incidents, necessary to set the characters in action, are made to turn. They are first stolen at the instigation of Lady Rety, the sheriff's wife, a kind of Lady Macbeth in her way, and one Catspaw, her attorney. They are rescued by Viola at the very moment of their being stolen: retaken from Viola when he is captured in his forest fastness: recovered again by him on his escape, upon which occasion Catspaw is murdered. On this, Viola flees with them to a distance; and they are only brought to light again at the critical moment, when their re-appearance and that of Viola, who had been for some time hiding as a herdsman, have become necessary to save Tengelyi's life from the charge of having been concerned in Catspaw's murder.

Here is breadth of canvas enough, for a great variety of events and characters. A proper seasoning of love also is added, to make things pleasant. Tengelyi's home is a manly contrast to that of Rety, 'marrying discord in a noble wife.' But the crowning pathos, as wife and mother, is reserved for Susi, the wife of Viola. The plot is as good as, perhaps a little better than, those of the majority of novels. Its interest is constantly kept up, and the persons brought forward upon its stage act admirably together. In the assassination of Mr. Catspaw, the wicked attorney, in the suicide of Lady Rety, in the expiatory death of Viola and the ruin of his family, the laws of poetical justice are observed with a severity which will satisfy the moral sense of the most scrupulous novel reader. But for more curious and thoughtful readers the higher attraction will prevail,—that of a historical romance, or picture of the social state of Hungary. Besides those aspects of society and of human nature which are common to at least every part of Europe, there are some introduced, more especially peculiar to its Eastern regions. In no period of English history could Jews or Gypsies have been plausibly represented in the parts which are here assigned to them; and the outlaw, transferred to England, could belong to no later time than the heroic days of Robin Hood. In that age, also, our County Courts and local jurisdictions, — our sheriffs and conservators of the peace, elected by the freeholders, — and our mixture of administrative and judicial functions, might have been, perhaps, as bad.

It is of little importance, except historically, that the line by which the population of Hungary is separated into two divisions, is drawn by the privilege of class and not of race, — by the distinction between Freeman and Serf, — rather than that between Magyar and Sclave. Tengelyi's horror at discovering that he has been robbed of the documents which establish his free descent, exhibits the terrible distinction in a dramatic form. 'We are no longer noble! We and our children are not noble! 'We are peasants! things to be despised, to be kicked, to be 'trodden under foot; things that have no property and that can 'have no merits; things like those which inhabit the hovels 'around us. They are not aliens, because they were born here; 'but still they have no rights, no property, and no country.' The history of Viola is the history of this distinction, as carried out to its most fatal consequences: so much so, that on laying down the book we are surprised that it has not been named after him, rather than after the Village Notary.

Viola, the peasant, whom oppression has goaded on to crime, is a true child of the Hungarian plains. Patient, enduring, ignorant, and withal proud and reckless, — he is a fair specimen

of that hardy race whose late struggle for independence has made them a subject of interest and compassion to the civilised world. In drawing that sketch, the author had no need to scrape together the filings of a classical workshop: nature—the nature of his own country—gave him the material and the model. Thanks to a happy instinct, he seized them, and from that instant the form of the victim of agrarian despotism stands prominently forward as the real hero of the work. Viola—but we leave him to tell his own tale: as his wife before had also told it:—

'"I was humble and inoffensive," said he, "and yet they did not spare me. I did my duty; indeed, I did more than my duty. I obeyed when they commanded. I took my hat off when I met them. I fawned upon them like a dog. I would have kissed their feet to induce them to leave Susi and my child alone, to leave my house alone, and yet——" Viola remembered again all the insults he had suffered. He recollected how they would have forced him to leave his wife in her hour of sorrow; how they dragged him through the village; how the justice gave orders to tie him to the whipping-post; how he seized the axe, and turned its edge against the head of a fellow-creature; and how the blood filled him with horror. He raised his hands to Heaven! "No!" cried he; "may God have mercy upon me! but whatever I may have done, I cannot repent it. If I were to live it over again,—if I were to see them standing round me, laughing and jeering,—and if I were to see the axe, I'd seize it again, and woe to the man that should come near me!"'

Viola, driven out of house and home, banished to the woods, hunted down like a beast of prey, and turning round to strike at the heart of his oppressors, is far from being a fictitious character in Hungary; as Mr. Palgrave Simpson, for example, had an opportunity of describing,—though a passing traveller and stranger. The concluding scenes of Viola's life from the time of his seeking shelter for his wife and children in a mountain *tanya*, are very affecting.

It is not easy to imagine a more degraded class than that of the Hungarian peasant. Such a class, however, unfortunately, is found in the Hungarian Jews; 'born to be a sharer in the 'distress of his family,—brought up to suffer from the injustice 'of the masses,—cast loose upon the world, to be not free, but 'abandoned,—struggling for his daily bread, not by honest 'labour, for that is forbidden to a Jew, but by trickery and 'cunning, crawling on the earth like a worm,—which any body 'may tread on and crush,—hated, hunted, persecuted, scouted.' The brutality with which Mr. Paul Skinner, the district judge, conducts the examination of Jantshi, when under the suspicion of murder, and the scene where Jantshi dies of a gaol fever, are

in sad conformity with this description. They go some way to explain the enthusiasm which prompted the Jews, during the late insurrection, to take up arms and die for Kossuth; the penalty for which they are now enduring at the savage hands of Haynau, — though by the mother's side, himself a Jew. It was the same with the peasantry: whatever Heber may have remarked on the feudal and limited authority under which they lived, as being 'absolute liberty, when compared with the West Indian despotism of a Russian master.' Presuming them to be the best judges, on which side they had most to hope and most to fear we may safely conclude that they were convinced that the numerous abuses which constitute the very substance of this story had some chance of being reformed under Kossuth and his colleagues, but were certain to be maintained by the Conservatives of Presburgh and Vienna. This must be the key to the translation of the present work, — supposing it to owe its appearance before the English public to M. Pulszky. So uninviting a picture of Hungarian affairs, we may be sure, would never have been unfolded to us at his suggestion, if he had not considered it to be in the interest of the great cause to which he had devoted himself, to call Baron Eötvös as a witness to the state of Hungary *before* the late insurrection. We here see what were the public and private vices which three centuries of foreign misrule had engendered, — what the abuses, which it was the aim of Kossuth and the Reformers to abolish, and of the Austrian *misrulers* to prolong.

It may be proper to add, before taking leave of 'The Village 'Notary,' that M. Otto Wenckstern has used the privilege of an intelligent translator, and has suppressed those parts of his text, which, from having been adapted to a particular class or season, appeared no longer suitable. By abridging the speeches, and condensing the descriptions both of characters and scenery, particular passages have been lightened, and the work brought within the limits of an English novel, though at the cost of the somewhat too epic breadth of the original. This is the manner, after the example of Schlegel, in which the German public has been made familiar with the choicest works of English and Spanish literature. It is of course a delicate jurisdiction, and can only be entrusted to a skilful hand.

The two volumes of 'Memoirs of a Hungarian Lady,' with their introduction and appendix, are the joint production of M. and Madame Pulszky. While the latter records her impressions and recollections of Hungarian life, we have to thank M. Pulszky for a brief and very able summary of the history of Hungary, from the days of Arpad to the reign of Ferdinand the

First, and the reform movement of 1847. Not a few among our readers will perhaps be astonished to learn that the History of Hungary, on which German writers have enlarged only to record the frequent contests between their own nation and the Hungarian people, abounds in interesting incidents and useful lessons for the statesman and philosophic historian. The gradual developement of the Hungarian constitution and the propagation of Christianity and civilisation under the House of Arpad; the power and prosperity of the Hungarian kingdom under Matthias Corvinus, its decline under a race of weak and improvident princes; the invasion of the Turks,—the battle of Mohatsh,—the advent of the House of Hapsburg-Lorrain,—and the contest for rights and privileges, which the Hungarian nation has carried on with the princes of that House for the last three hundred years;—these several particulars form a striking and novel picture, however much it may suffer in its general effect, as here presented, from the press of persons and events. To trace the story of ten centuries within the limits of one hundred and thirty-five octavo pages must be an arduous undertaking at all times; but the difficulty of the task increases, when, as in the present instance, nothing whatever can be taken for granted. While we admire M. Pulszky's comparative success, in crowding so many facts, and these too facts of the most heterogeneous description, into so small a space, with proportionably so exiguous a degree of inconvenience to himself and his readers, and while we are fully alive to the usefulness of his sketch for our immediate necessities, we are yet of opinion that the 'History of Hungary' from the 'contrat social' of Almosh and his associates, down to the Repudiation Act of 1849, remains to be written, and that this important gap in our historical literature is still open to the competition of historians. Let us not, however, be misunderstood. We are far from calling out for another 'Handbook,' or 'Historical Cate-'chism.' The work which we desire should be more than a collection of dates and names. Its author ought to improve upon the hints which M. Pulszky has thrown out in the course of his narrative. Taking his stand on the fruitful ground which has been lately conquered for us in the conduct of history, he should portray the commencement and the developement of the Hungarian kingdom,—the various influences of Eastern and Western civilisation which met on the neutral soil of the ancient Magyars,—the prosperity and power of a free people under a line of free princes; he should trace the progress of dynastic feuds and encroachments, and the events which they successively originated;—and lastly, he should review, intelligently and

faithfully, the long train of causes which led to the fatal obstructions, and to the consequent deterioration of the Hungarian institutions,—and to that lamentable state of things which Baron Eötvös satirizes, and which has since obtained a new term of wretched and precarious existence by Georgey's surrender at Vilagosh.

Madame Pulszky's part in these two volumes shows, perhaps to a greater extent than she intended, what must have been the condition of the Austrian capital before the revolution of 1848. We commenced the perusal of her work with a mixture of sorrow and doubt: we leave it with unqualified astonishment. We were prepared to find in her pages a harassing struggle between her head and heart; a contest of her reason with her love of home; and alternate yearnings from the country of her adoption towards the country of her birth. We were mistaken. Madame Pulszky, though a native of Vienna, feels and sympathises only with the Magyars. She had for many years been taught to consider Hungary as 'an uncultivated, 'unpeopled land, in which only here and there forlorn mortals 'wandered around with sheepskins,' and 'where only single towns 'rose like oases in a desert.' Yet, the very Magyar language, which she at one time looked down upon as 'a strange dialect 'which could not have any real meaning,' and which 'was only 'to be understood by conventional signs or some kind of in-'tuitive knowledge,' has since so grown upon her on a better acquaintance, that her Magyar orthography of persons and places is now a subject of greater curiosity than convenience to an English reader. In her girlhood it was but seldom, that the persons who were about her condescended to mention the name of Hungary, whose frontier towns may be descried from the height of the metropolitan cathedral of St. Stephen. When they spoke of it, it was only to show their ignorance and self-sufficiency. Nevertheless, after Madame Pulszky once crossed the frontier, she appears to have readily transferred her allegiance to the new scenes and new impressions which now surrounded her. There is nothing in her book of that sentimental longing with which Germans are said to cling to the country of their birth. At Szeczeny, her husband's seat, we find her exclusively devoted to the entertainment of her Magyar friends, to her household, and to the wants of the peasant population; and when in the summer of 1848, the tide of events carries her back to Vienna, we find her in a quiet retreat, at some distance from the capital, watching the convulsions of the Austrian empire with the indifference of a foreigner, and bestowing her interest upon them only in so far as they are likely to affect the affairs of Hungary.

On the breaking out of the war, she recedes before the advancing Austrians. She leaves Szeczeny and wanders about in search of a home for herself and her children; until at last, closely pressed on all sides, after a hundred dangers, fatigues, and disappointments, and after separating from her children for their sakes and her own, she is compelled to appeal to the humanity of strangers, who protect her on her journey through Moravia, and on her flight over the Prussian frontier.

This is the substance of Madame Pulszky's narrative; agreeably diversified with sketches and anecdotes from Magyar life, as well as with ancient legends from Hungarian history and modern passages in the late war of independence. It cannot fail to excite an interest in readers of all classes,—in those who open a book at random only for amusement, as well as in those who look to literature for something more enduring. As far as we ourselves are concerned, we have to thank these volumes for a lesson of graver and deeper import. It appears from many parts of her narrative that Madame Pulszky is *not* a heartless woman. Her very want of practice in the craft of authorship gives the critic a greater confidence in his inferences from what she writes. How then can we explain that evident absence of all interest in her native land, which every line of her narrative betrays? And how is it that her heart so opens and overflows with a new affection—*amor tam improvisus ac repertinus*—for the country of her adoption? There is more in this than the conjugal relation will account for. Is it that Hungary presents itself as an object of attachment, in a sense that Vienna cannot?

The answer to these questions is in itself a condemnation of what Austria has been, and, we fear also, of what Austria still is. Madame Pulszky is most Austrian when she seems most forgetful of Austria. That country has not, in fact, any distinct geographical or even political existence. It is an abstraction. Before the revolution, the name was used to express the joint influence and action of certain bureaucratic despots: at the present moment it embodies the power and the will of the army and its commanders. Austria exists through them and for them. She now has no resting place on the shores of the Adriatic or at the foot of the Alps: neither the moors and pine-forests of Lithuania, nor the Pusztas of Hungary condescend to own in her even the moral superiority of their Empire-State. But the presence of a mixed army of Bohemians, Moravians, Croats, Germans, Lombards, Tyrolese, and Magyars, impresses on each of the various provinces which they hold in subjection to the sovereignty of the House of Hapsburg-Lorrain, the name and the historical attributes of Austria. This historical distinction,

however, is neither sought for when wanting, nor envied to those who possess it; and though the natives of the various provinces may cleave to the love and the traditions of their home, their patriotism is confined to the 'kingdom,' 'duchy,' or 'county,' which gave them birth. The undoubted bravery of the troops which fight under the double-headed eagle of Austria, is as little deserving of the name of patriotism as the zeal of the Prætorian guards, who fought with equal devotion, whether against the Cæsars or against the enemies of the Cæsars, is entitled to that sacred name. The inhabitants of Vienna and of Austria Proper have not even a provincial patriotism to support them in their narrow path of political virtue. For, subjected to the immediate sway of a reigning faction, and open to the irruption of a hundred conflicting nationalities from the south and north, east and west, their city, the capital of the Austrian empire, has long since come to be 'the common sewer' of every nationality,—while it can give birth to none. Her chief characteristic is her want of character; while her most immediate political misfortune is her utter inability to exist under any other government and under different circumstances.

These are not Madame Pulszky's assertions. That lady would not, we fear, sanction the conclusions to which we have come; supported though they are by her own statements and the various books and pamphlets which have lately been published on the Austrian revolution and the Hungarian wars.

In conclusion, we disclaim any imputation of willingly going out of our way to say offensive things. The Austrian press has frequently accused the organs of public opinion in this country of a meddling desire to widen the breach between the various classes, provinces, and nationalities of Austria. We have no such wish. Far from it. But we must speak of public events and public characters, of the conduct of governments as well as of individuals, according as we find them. Windham, speaking of Bonaparte, refused to adopt the subterfuge of the timid citizen who called after the burglars,—'You honest gen-'tlemen, that are breaking into my house;' or to imitate the Irishman in confusing the names of things, by advertising the silk stockings which he had lost, under the name of worsted, in the hope of getting them back so much cheaper. Actions do not change their nature, in consequence of their being committed by persons in high places: and if humanity, truth, and justice had no other home on earth, they ought to find one in the breasts of kings,—and, we will add, the representatives of kings. Great successes and great misfortunes make an open space around them: and publicity follows in the track of fate. That

this should be so, is some consolation to the innocent; while it is the only punishment,—from which there is no escape,—even for hardhearted and triumphant guilt.

ART. VIII.—*An Essay on the Influence of Authority in Matters of Opinion.* By GEORGE CORNEWALL LEWIS, Esq. London: 1849.

MR. LEWIS in literature resembles the maker of a special survey in geography. He takes an apparently small province in philology, politics, or philosophy, extends to every part of it a minute investigation, and produces a map always more full, and, generally, more accurate, than could have been obtained if he had chosen a wider field, and consequently a smaller scale. The essays on the use and abuse of political terms—on Irish disturbances, on the Irish in England, and on the government of dependencies,—are instances. None of these subjects had ever before been made the matter of an express treatise: some of them, such as 'The Condition of the Irish in England,' had scarcely been adverted to. In his hands they have all acquired importance. No future writer on any of the matters of which they form parts will disregard them, or will venture to treat them without adverting to the researches and opinions of Mr. Lewis. There is one great difference, however, between the territorial and the moral surveyor. A man may make a perfect map of a parish without having ever quitted it. His knowledge or his ignorance of the adjoining parishes or of the county is unimportant. No one can write well on any moral question without having thought much on all the questions that bear on it directly, and on many with which it appears to have little or no connection. The great variety of the matters into which Mr. Lewis, as a philosopher, has inquired, and of those with which, as an administrator and statesman, he has had to deal, contributes materially to the fulness and to the soundness of his special discussions.

Mr. J. S. Mill has remarked, that the least satisfactory parts of a treatise are generally the opening portions, in which the author sketches his subject and defines his principal terms; these being the most abstract parts of his work, and therefore those as to which he is most likely to be accused of confusion or impropriety, and indeed most likely to be guilty of them. The case before us is no exception. We are inclined to object both to the nomenclature and to the classification of the first chapter; and, as the subject is important, we shall state our objections at

some length. We will begin by extracting Mr. Lewis's opening sentences: —

'As the ensuing Essay relates to matters of opinion, it will be necessary for me, at the outset, to explain briefly what portion of the subjects of belief is understood to be included under this appellation, and what is the meaning of the generally received distinction between matters of opinion and matters of fact.

'By a matter of fact, I understand anything of which we obtain a conviction from our internal consciousness, or any individual event or phenomenon which is the object of sensation. It is true that even the simplest sensations involve some judgment. When a witness reports that he saw an object of a certain shape and size, or at a certain distance, he describes something more than a mere impression on his sense of sight; his statement implies a theory and explanation of the bare phenomenon. When, however, this judgment is of so simple a kind as to become wholly unconscious, and the interpretation of the appearances is a matter of general agreement, the object of sensation may, for our present purpose, be considered a fact. A fact, as so defined, must be limited to individual sensible objects, and not extended to general expressions or formulæ descriptive of classes of facts, or sequences of phenomena, — such as, that the blood circulates, the sun attracts the planets, and the like. Propositions of this sort — though descriptive of realities, and therefore, in one sense, of matters of fact — relate to large classes of phenomena which cannot be grasped by a single sensation, which can only be determined by a long series of observations, and are establishdd by a process of intricate reasoning.

'Taken in this sense, matters of fact are decided by an appeal to our own consciousness or sensation, or to the testimony, direct or indirect, of the original and percipient witnesses. Doubts, indeed, frequently arise as to the existence of a matter of fact, in consequence of the diversity of the reports made by the original witnesses, or the suspiciousness of their testimony. A matter of fact may, again, be doubtful in consequence of the different constructions which may be put upon admitted facts and appearances in a case of proof by (what is termed) circumstantial evidence. Whenever such doubts exist, they cannot be settled by a direct appeal to testimony, and can be resolved only by reasoning, — instances of which are afforded by the pleadings of lawyers and the disquisitions of historians upon contested facts. When an individual fact is doubted upon reasonable grounds, its existence becomes a matter of opinion.

'Matters of opinion, not being disputed questions of fact, are general propositions relating to laws of nature or mind, principles and rules of human conduct, future probabilities, deductions from hypotheses, and the like, about which a doubt may reasonably exist. All doubtful questions, whether of speculation or practice, are matters of opinion. With regard to these, the ultimate source of our belief is always a process of reasoning.

'The essential idea of opinion seems to be, that it is a matter about

which doubt can reasonably exist, as to which two persons can, without absurdity, think differently. The existence of an object before the eyes of two persons would not be a matter of opinion, nor would it be a matter of opinion that twice two are four. But when testimony is divided, or uncertain, the existence of a fact may become doubtful, and therefore a matter of opinion. For example, it may be a matter of opinion whether there was a war of Troy, whether Romulus lived, who was the Man in the Iron Mask, who wrote Junius, &c. So the tendency of a law or form of government, or social institution; the probability of a future event; the quality of an action, or the character of an historical personage,—may be a matter of opinion.

'Any proposition the contrary of which can be maintained with probability, is a matter of opinion.' *

According to the last of these definitions, matter of opinion is opposed, not to matter of fact, but to matter of certainty. But according to an earlier definition, propositions which are established by a process of intricate reasoning,—such as the attraction of the planets by the sun,—however certain, are excluded from matters of fact, and therefore considered matters of opinion.

We believe that in common use, each of these expressions—matter of fact and matter of opinion—is ambiguous.

Sometimes we use the term matter of fact, as it is defined by Mr. Lewis, to mean an event or phenomenon which we know from consciousness of sensation. So used it is opposed to matter of inference. Thus the destructiveness of cholera is a matter of fact. The mode of its propagation a matter of inference. That the sun appears to go round the earth, is a matter of fact. That it is stationary, is a matter of inference. Sometimes, on the other hand, we use the term matter of fact to express, not the sort of evidence on which a proposition rests, but its certainty. In this sense of the word, matter of fact is opposed not to matter of inference, but to matter of doubt. Thus there would be no impropriety in calling the existence of a Deity a fact, though ascertained only by inference. In this sense the immobility of the sun might be called a fact.

A similar ambiguity belongs to the expression, matter of opinion.

Sometimes it denotes the knowledge acquired by inference as opposed to that acquired by perception. Thus we might say, that the moon gives light is a matter of fact; that it is uninhabited is matter of opinion. The redness of the blood is a fact; its circulation an opinion. The assassination of Cæsar

* Pp. 1—4.

is a fact; the merit of that act an opinion. Sometimes, and more frequently, it denotes not inference, as opposed to perception, but uncertainty, as opposed to certainty. Thus, the death of Charles the First might be called a fact; his authorship of the 'Icon Basilike' an opinion. Both are matters which might have been ascertained by perception — but we are certain as to the one, and uncertain as to the other.

In this sense what is matter of fact in one age or in one place, may cease to be so in another. Among the Greeks it was a matter of fact that the sun goes round the earth: no one doubted it. Among us it is a fact that the earth goes round the sun. Three hundred years ago no one doubted that Cicero wrote the oration *pro Marcello*. It was therefore a matter of fact. Now the belief that it is spurious rather preponderates. Its authenticity, therefore, is now matter of opinion.

We are inclined to think that the best plan would be to discard from philosophical use both these ambiguous expressions, and to divide knowledge, according to its sources, into matter of perception and matter of inference; and, as a cross division, as to our conviction, into matter of certainty and matter of doubt.

Matters of perception are generally matters of certainty. Our senses sometimes deceive us, but it is seldom that we suspect the deception; and as certainty is an attribute, not of the things considered, but of the person who considers them, an unreal appearance, if its unreality be unsuspected, is not matter of doubt. Sometimes, indeed, we know that we do not see what we seem to ourselves to see. We know that a juggler does not put our watches into a gun, fire it off, and then return them to us unhurt. Yet it seems to us that we see him do so. So Maclaurin saw a phantom in the corner of his room. He sent for a surgeon, was bled, and, as the blood flowed, the phantom melted away.

Matters of inference, of course, vary from perfect certainty to the slightest suspicion. The inference, from all past experience, that the sun will rise to-morrow, is a matter of perfect certainty. The inference, from the apparent want of water and atmosphere in the moon, that it is uninhabited, is a matter of great doubt. The inference drawn from the analogy of the earth, that the moon is inhabited by rational beings, is too doubtful to be seriously considered.

Mr. Lewis, of course, has a right to select his own nomenclature, provided he employ it consistently. We have seen that his last definition of a matter of opinion is, that it is a proposition the contradictory of which may be maintained with probability.

In the rest of this article, therefore, we shall consider him as using the expression 'matter of opinion' in this sense.

We proceed to his definition of authority in matters of opinion: —

'When any one forms an opinion on a question either of speculation or practice, without any appropriate process of reasoning really or apparently leading to that conclusion, and without compulsion or inducement of interest, but simply because some other persons, whom he believes to be competent judges on the matter, entertain that opinion, he is said to have formed his opinion upon authority.

'Whenever, in the course of this Essay, I speak of the Principle of Authority, I shall understand, the principle of adopting the belief of others, on a matter of opinion, without reference to the particular grounds on which that belief may rest.'*

In the second chapter Mr. Lewis considers the extent of the opinions founded on authority. Of course this genus includes nearly all the opinions of children. It includes nearly all the opinions of the labouring classes. The traditional maxims which they inherit from their parents, the instruction communicated by their clergy, and the desultory information contained in the few books and newspapers which they read, form the basis of their knowledge.

Among the middle and higher orders many will not spare from business or pleasure the time necessary to form independent opinions on matters requiring laborious investigation. Others not only act, but think, under the dominion of fashion, and fear singularity more than error. And even those who are anxious for truth can seek it for themselves in only a few directions.

'A mathematician,' says Mr. Lewis, 'takes his historical and 'political opinions — a moral philosopher or an historian takes 'his physical opinions — on trust. The difficulty and labour of 'original thought and investigation are great. The number of 'subjects is enormous: every year adds to the stock of known 'facts, both in history and physics. The invention of printing 'and paper, by multiplying and perpetuating the records of 'facts and opinions, has rendered it impossible for even a pro-'fessed student to explore more than certain portions of the 'field of knowledge.'† It was in the power of Aristotle both to know all that was known by others and to be a great discoverer himself. He was able to illustrate every subject by every other. A modern student has a choice of difficulties. If he concentrate his inquiries, he cannot shed over his own path the light which might have been reflected from other portions of

* P. 6. † P. 14.

the universe of knowledge. And if, in search of this light, he wanders into bye paths, he wears out the strength and the time which are necessary to carry him far in his own peculiar course.

Having shown how large is the extent of the opinions adopted on authority, Mr. Lewis considers what are the marks of trustworthy testimony on matters of fact, and what are the qualifications of a competent guide in questions of speculative truth and practical conduct. This subject has, however, been exhausted by Archbishop Whately*, and is therefore touched on very slightly by Mr. Lewis; and he proceeds to a less trodden matter,—the importance of the agreement in testimony or opinion of the persons whose qualifications give to them authority. We are inclined to think that he rather overrates the value of concurrent testimony as to matters of perception, when he says that if ten credible witnesses agree as to a fact, the value of their concurrent testimony is more than ten times the value of the testimony of each. Assuming the matter to be cognisable by the senses, and the observer to be judicious and honest, a single witness is, in most cases, as fully to be believed as ten. We say in most cases, in order to exclude the cases of delusions occasioned by disease. We believe many historical and still more numerous judicial facts, though they are attested by only a single witness. We do *not* believe that a juggler really does what he appears to do, though the fact is attested by a whole theatre. Archbishop Whately has well remarked† that what is called the concurrent testimony of hundreds is often, in fact, the testimony of one or two persons to what they have seen, or think that they have seen, and that of the rest to their belief in the thing having been seen by others. The whole army of Cortez declared that, at the battle of Otumba, they were led by the Apostle St. James. It is obvious that the error or the invention must have been begun by some one person, and that the others were mere repeaters of his story. The real advantage of plurality of witnesses is, that if they are dishonest they may be detected by separately cross-examining them as to details, as in the *cause célèbre* of Susannah and the Elders. Even this resource sometimes fails, when the witnesses are well drilled. In the Leigh peerage case, before the House of Lords, in 1828, the claimant proved his descent from one Roger Leigh, of Haigh, in Lancashire, and he affirmed that Roger Leigh was the son of Christopher

* Rhetoric, pt. i. ch. 2. † Ibid. p. 62., 7th edit.

Leigh, who was admitted to have been a son of the first Lord Leigh. It was known, however, that Christopher Leigh married one Constance Clent, and that the issue of that marriage had failed. The claimant's case was, that he had previously married a Cotton, and that Roger was the son of the first marriage. To prove this fifteen or sixteen witnesses swore that they recollected, in Stoneleigh Church, a monument to the Honourable Christopher Leigh, with an inscription which, when put together out of their different recollections, stated that his first wife was a Cotton; that he had by her a son named Roger, who was described as of some place in Lancashire, and who married a Higham. In short, the inscription supplied all the wanting links; and they recollected that when the church was repaired, in 1811, the monument was removed, and never replaced. They supported their evidence by minute details. One witness used to wonder that a Leigh should marry so low a person as a Cotton, since his father had a servant of that name. Another used to be puzzled how the letters Leigh could produce the sound of Lee. Another used to ponder how Higham could be pronounced Hiam. They varied a little as to the colour and form of the monument, but all agreed that it contained the words, 'The Honourable Christopher 'Leigh,' 'Cotton,' 'Roger,' 'Lancashire,' and 'Higham,' and all agreed that it stated Roger to have been the son of Christopher. One witness was accustomed to work in the church, and always put his tools behind this monument. Another had been employed to clean it; another saw it in the vestry, after it was taken down; another assisted a man to copy the inscription, who fell while doing so, and hurt himself; another was churchwarden when the monument was taken down, and remonstrated against its not being put up again; another saw it carried into a cellar in Stoneleigh Abbey, from whence it never emerged. And yet it was proved, to the satisfaction of all who heard and of all who have read the evidence, that such a monument never did exist, and never could have existed, since all the material statements of the pretended inscription were shown to be unfounded.

Mr. Lewis thus sums up the progress of agreement in matters of inference: —

'When any science is in an imperfect but constantly advancing state, the weight of authority increases as the tendency to agreement begins to exhibit itself; as the lines of independent thought converge; as rival opinions coalesce under a common banner; as sects expire; as national schools, and modes of thought and expression disappear; as the transmission of erroneous and unverified opinions from one

generation to another is interrupted by the recognition of newly ascertained truths. It is by the gradual diminution of points of difference, and by the gradual increase of points of agreement, among men of science, that they acquire the authority which accredits their opinions, and propagates scientific truths. In general, it may be said that the authority of the professors of any science is trustworthy, in proportion as the points of agreement among them are numerous and important, and the points of difference few and unimportant.' *

These judicious remarks are followed by a passage, which we extract, partly because its general propositions are valuable, and partly because we think ourselves bound to enter a protest against some of the examples by which those general propositions are illustrated.

'Assistance in the selection of guides to opinion may be derived from a consideration of the marks of imposture or charlatanism in respect both to science and practice. If such marks can be found, they will afford an additional means of distinguishing mock sciences from true ones,—the charlatan from the true philosopher or sound practitioner.

'In the first place, we may observe that mock sciences are rejected, after a patient examination and study of facts, and not upon a hasty first impression, by the general agreement of competent judges. Such was the case with astrology, magic, and divination of all sorts, at the beginning of the last century; which, having been reduced to a systematic form, and received by the general credulity, have since yielded to the light of reason. The errors of the ancients in natural history, which were repeated by subsequent writers after the revival of letters, have been exploded by a similar process. The same may be said of the influence of the heavenly bodies upon diseases, believed at no distant date by scientific writers. Mesmerism, homœopathy, and phrenology have now been before the world a sufficient time to be fairly and fully examined by competent judges; and as they have not stood the test of impartial scientific investigation, and therefore have not established themselves in professional opinion, they may be safely, on this ground alone, set down under the head of mock sciences; though, as in the case of alchemy, the researches to which they give rise, and the new hypotheses which they promulgate, may assist in promoting genuine science.

'True sciences establish themselves, after a time, and acquire a recognised position in all civilised countries. Moreover, they connect themselves with other true sciences; analogies and points of contact between the new truths formerly known are perceived. Such has been the case with geology, which has taken its place as a science founded on accurate and extensive observation only during the present century. But while it has assumed an independent position, it has received great assistance from comparative anatomy and other

* P. 49.

apparently unconnected sciences, and has thrown light upon them in return.

'Pseudo-sciences, on the other hand, are not accredited by the consentient reception of professional judges, but remain in an equivocal and unaccepted state. No analogies or affiliations with genuine sciences are discovered; the new comer continues an alien, unincorporated with the established scientific system; if any connexion is attempted to be proved, it is with another spurious science, as in the case of phreno-mesmerism, where one delusion is supported by another. Mock sciences again, not making their way universally, are sometimes confined to a particular nation, or, at all events, to a limited body of sectarians who stand aloof from the professors of the established science.' *

We have said that we assent to the general views contained in this passage, but not to all its specific illustrations. We do not think that mesmerism, homœopathy, and phrenology have all failed under the test of impartial scientific investigation. We do not think that this can be fairly asserted of any one of them. There are now probably in England, France, Germany, and the United States, many hundred educated men who are professedly practitioners of homœopathy. The majority of them were originally trained to believe in the doctrines and pursue the practice of ordinary medicine, or, as the homœopathists have denominated it, allopathy. Can there be a doubt that among them there are many who are competent judges, and who have subjected homœopathy to an impartial scientific investigation, and who believe that it has stood the test? They may be wrong in this belief, but they stake on it their own reputations and the health and lives of their patients. Again, the literature on phrenology amounts in bulk to a respectable library. It contains elaborate treatises by men of scientific habits, who had no motives to deceive themselves or the public. We do not affirm that their conclusions are generally acquiesced in; but we do affirm that they have not been generally rejected. The truth of the phrenological theory may not have been established, but it has not been proved to be false.

Both homœopathy and phrenology are plausible. They are supported by analogy. The homœopathist affirms that much of what we call disease is in fact a curative process. That the acceleration of the pulse, for instance, in fever, is an effort of nature to escape from a mischievous influence; that it resembles the plunges of a horse who falls under his load, and struggles, as it appears to us wildly, to recover himself. And he asks whether, if we were to consider the horse's struggles as the thing

* P. 50.

to be remedied, and violently to repress them, we should do good or harm? He affirms that his remedies, though they may exaggerate the symptoms, may by that very process relieve the disease, those symptoms being in fact the mode of cure; and that it is because they assist nature instead of opposing her, that they are efficient, though exhibited in comparatively minute doses. It is obvious that there are many cases to which this reasoning will not apply, and that the curative process employed by nature may be one that ought to be checked rather than encouraged. Nature, for instance, cures inflammation by suppuration, ulceration, and cicatrisation. She does this blindly: in the lungs as readily as in the other parts of the body; and as ulcerated lungs rarely heal, the patient dies under her practice. Still, however, the homœopathic reasoning is generally plausible; and we are inclined to believe that in many cases its inferences are true.

The basis of the phrenological theory is the hypothesis that, as the brain collectively is the organ of thought and feeling, so portions of the brain are employed in producing specific intellectual and moral results. That as we see with our eyes, hear with our ears, and taste with our palates, so the organs of thought are principally in the front, and those of passion principally in the back of the head; that the portions of the brain which supply combativeness and destructiveness are behind the ears, and those which are used in veneration on the crown. It is possible that even the outline of this doctrine may not be true. It is not only possible, but probable, that there may be error in many of the details of the science as taught by its most accomplished professors; but it appears to us that to affirm its utter fabulousness is more rash than even to maintain its universal truth.

Mesmerism certainly is *not* plausible. That it should be in the power of the mesmeriser, without actual contact, merely by gesticulation and by an exertion of will, to produce in his patient the trance which, in the language of the science, is called somnambulism; that the somnambulist should lose his general perception of the exterior world, should not hear the conversation around him, should not feel pressure from external bodies, should endure, without pain, a surgical operation, but should receive new powers of perception with respect to those with whom he is put into what they call relation, should read their thoughts, see the state of their internal organs, detect in them any disorder, and know instinctively what are its appropriate remedies,—all these are phenomena for which we are unprepared by any previous experience. They are not, to use

a common word in its derivative sense, likely. They do not resemble anything that we have previously known. We ought not to admit them, except on proof, more than sufficient to support propositions supported by analogy. But it is impossible to deny that to many men of high moral and scientific character the proofs already adduced have appeared sufficient. Nor is it, we think, to be denied that this number is increasing, and that mesmerism is assuming an importance which must, at no distant time, occasion a formal inquiry, in which its errors, which probably are many, will be separated from, what we may be sure are also many, its truths.

We cannot quit this episode without supporting our views by the authority of a writer whose knowledge and ability none of our readers will undervalue.

In his 'Sequel to the Outlines of Medical Proof,' Dr. Mayo urges with great force the expediency of an inquiry, either by the College of Physicians, or under a government commission, into the merits of homœopathy, hydropathy, and mesmerism. The following is a portion of his argument:—

'The position of mesmerism, with respect to the public, 'demands not jesting and abuse, but very serious consideration. 'The reality of those phenomena of trance which have been 'brought to bear upon the treatment of disease, and the removal 'of physical pain, is undeniable, however disposed we may be 'to exercise a chronic scepticism with respect to certain other 'transcendental phenomena of the mesmeric state. With re-'spect to mesmeric therapeutics, besides other questions which 'would spring out of an inquiry, one question would arise of a 'very practical nature; namely, whether a certain measure of 'beneficial results being conceded to mesmerism, the extent of 'benefit is commensurate with the contingent mischievousness 'of the means employed. Now the public has a right to 'demand, and to demand of us, some answer to the questions, 'whether the asserted removal of disorders on mesmeric prin-'ciples has been truly effected — whether the objections above 'hinted at to their removal on these principles may be over-'ruled — whether, in regard to this latter point, a line can be 'drawn between a legitimate and an illegitimate use of the 'expedients of the science.

'For great, indeed, is the curative effect held out by these 'practitioners, and held out with no slight degree of proof. The 'talents and high scientific position of Dr. Elliotson are well 'known. It would be superfluous, and therefore impertinent, 'to say that his veracity is unimpeachable, but for the unscru-'pulousness with which charges of insincerity have been brought

'against professors of mesmerism. Now Dr. Elliotson has recently published a case of cancer, apparently absorbed under 'mesmeric treatment. Its cancerous nature had been recognised by Mr. Syme, Mr. Samuel Cooper, and Dr. Ashburner, 'as well as by Dr. Elliotson. But, in fact, the cases of cure, 'less marvellous in kind than this, of various diseases under 'mesmeric agency, are too numerous to be put aside without 'inquiry. They are numerous to an extent which will induce 'the public to accept the *methodus medendi*, with all its presumable evils, unless we place it before them, after investigation, in a harmless form, if such a form can be devised, or 'convict the whole system of vice or imposture.

'An inquiry of this kind may no doubt terminate only in 'incertitude. In this case, if the requisite means have been 'taken to elicit truth, and to secure ourselves against error, we 'shall at least have done our duty. But it is conceivable, with 'respect to homœopathy, that as disease can arise from infinitesimal causes, so infinitesimal remedies may sometimes prove 'sanative; it is conceivable, with respect to mesmerism, that 'the influence of the trance, and of the sympathy, may be 'admitted by us to possess an extent of medical advantage, 'which may exceed the disadvantage of the peculiar kind of 'possession involved in this treatment.'*

Dr. Elliotson has all the qualities which Mr. Lewis requires† in an unexceptionable witness to a matter of perception. The facts, so far as they were matters of perception, fell within the range of his senses; he attended to them; he possesses a fair amount of intelligence and memory; and he is free from any sinister or misleading interest. His interest, indeed, would have led him to conceal almost all that he has told; for his connexion with mesmerism gave to his reputation a taint of quackery, which, for a time, materially injured his practice. He has also all the rarer qualities which Mr. Lewis requires in a competent authority in matters of inference‡, — talents, learning, experience, and integrity. If his evidence and his opinions are to be scornfully rejected because he relates phenomena which are not supported by analogical facts, how is the existence of such phenomena to be proved? Are we to adopt the pyrrhonism which maintains that it is more probable that any amount of testimony should be false than that any thing differing from what we believe to be the ordinary course of nature should have occurred? On such principles the King of Siam was justified in disbelieving that water can become

* Sequel, pp. 37—40. † P. 21. ‡ P. 27.

solid; and the Emperor of China might refuse to be convinced that it is possible to send a message from Pekin to Canton in a second.

Since these remarks were written we have received two papers from Calcutta. One is a 'Report of the Committee appointed 'by Government to observe and report upon surgical operations 'by Dr. J. Esdaile upon patients under alleged mesmeric 'agency;' printed by the Government in 1846. The other is a 'Record of Cases treated in the Mesmeric Hospital, from No-'vember, 1846, to May, 1847,' with reports of the official visitors; printed by the Government in 1847.

Some of the diseases prevalent in India require operations longer and more painful than almost any that are endured in Europe. Dr. Esdaile, the superintendent of a hospital near Calcutta, had for some time prepared his patients by throwing them into mesmeric sleep. Lord Dalhousie, anticipating Dr. Mayo's suggestion, appointed a committee (or, as we should call it, a commission), consisting of seven persons, four of whom were medical men, to report on this practice. An apartment in the native hospital of Calcutta was assigned as the scene of the experiment, and ten patients as its subjects.

The Committee thus describe the process, and its results:—

'The mesmeriser was seated behind the patient, leaning over 'him, the right hand generally placed on the pit of the stomach, 'and passes were made with one or both hands along the face, 'chiefly over the eyes. The mesmeriser breathed frequently 'and gently over the patient's lips, eyes, and nostrils. Profound 'silence was observed. These processes were continued for 'about two hours in each day. In three cases no result was 'obtained. In seven cases, in a period varying from one to 'seven sittings, deep sleep followed. This sleep in its most 'perfect state differed from ordinary natural sleep as follows: 'The individual could not be aroused by loud noises, the pupils 'were insensible to light, and great, and in some cases ap-'parently perfect, insensibility to pain was witnessed on burn-'ing, pinching, and cutting the skin and other sensitive organs. 'It differed from that which would be produced by narcotic 'drugs in the quickness with which, in eight cases out of ten, 'the patient was awoke, after certain transverse passes and fan-'ning by the mesmeriser, and blowing upon the face and on the 'eyes,—in the natural condition of the pupils of the eyes and 'the conjunctiva in all the cases after awaking,—in the absence 'of stertorous breathing and of subsequent delirium or halluci-'nation; and of many other symptoms familiar to medical 'observers, which are produced by alcoholic liquors, opium,

'hemp, and other narcotic drugs. In seven cases surgical operations were performed in the state of sleep above described. 'In the case of Nilmony Dutt there was not the slightest indication of the operation having been felt by the patient. It 'consisted in the removal of a tumour. It lasted four minutes. 'The patient's hands or legs were not held. He did not move 'or groan, or his countenance change. And when awoke after 'the operation, he declared he had no recollection of what had 'occurred. In another case, Hyder Khan, an emaciated man, 'suffering from mortification of the leg, amputation of the thigh 'was performed, and no sign of its causing pain was evinced. 'In a third case, Murali Doss (the operation he underwent 'being very severe), he moved his body and arms, breathing in 'gasps, but his countenance underwent little change, and the 'features expressed no suffering; and on awaking he declared 'he knew of nothing having been done to him during his sleep. 'In a fourth case the operation was insignificant. In the three 'other cases various phenomena were witnessed, which require 'to be specially pointed out. While the patients did not open 'their eyes, or utter articulate sounds, or require to be held, 'there were vague and convulsive movements of the upper 'limbs, writhing of the body, distortion of the features, giving 'the face a hideous expression of suppressed agony; the respiration became heaving, with deep sighs. There were, in short, 'all the signs of intense pain which a dumb person undergoing 'an operation might be expected to exhibit, *except resistance to 'the operator*. But in all these cases, without exception, after the 'operation was completed, the patients expressed no knowledge 'or recollection of what had occurred, denied having dreamed, 'and complained of no pain till their attention was directed to 'the place where the operation had been performed.'*

On receiving this report the Governor-General, 'believing,' in the words of Mr. Halliday, his secretary, 'that the possibility 'of rendering the most serious operations painless had been so 'far established as to render it incumbent on the Government to 'assist in the inquiry, determined to place Dr. Esdaile for one 'year in charge of a small experimental hospital in some favourable situation in Calcutta, in order that he might extend his 'investigations under the inspection of official visitors.'

The second paper contains the results of the first six months of this experiment. It appears that during that time a series of operations were performed on patients in mesmeric sleep. Dr. Esdaile states that in seven of the cases in which he operated, the

* Report, pp. 2, 3.

patients recovered consciousness before the end of the operation. In all the others their sleep endured until they were intentionally roused after its termination, and they were then unaware of what had been done to them. In many of them, however, there were indications of pain during its continuance. Three of these last-mentioned cases are detailed by Professor O'Shaugnessy, one of the official visitors. They left on his mind, he says, an unfavourable impression. 'But,' he continues, 'I have witnessed 'so many cases operated upon by Dr. Esdaile since, without 'the patients showing the slightest physical or other indication 'of suffering, either before, during, or immediately after the 'operation, that I am perfectly satisfied that they did not feel 'pain any more than the bed they lay upon, or the knife that 'cut them.'*

No one can doubt that phenomena like these deserve to be observed, recorded, and arranged; and whether we call by the name of Mesmerism, or by any other name, the science which proposes to do this, is a mere question of nomenclature. Among those who profess this science there may be careless observers, prejudiced recorders, and rash systematisers; their errors and defects may impede the progress of knowledge, but they will not stop it. And we have no doubt that before the end of this century, the wonders which now perplex almost equally those who accept and those who reject modern mesmerism, will be distributed into defined classes, and found subject to ascertained laws; in other words, will become the subjects of a science.

Having described, in the third chapter, the process by which, in scientific matters, an agreement among competent judges, and, consequently, a body of trustworthy authority, is gradually formed, Mr. Lewis proceeds, in the fourth, to consider how far this description applies to matters of religion.

All nations and in all ages have agreed in the belief of the existence of a supernatural power. Nearly all nations, and nearly all ages, have agreed in believing in the existence of One Supreme God; sometimes believed to be sole, but more frequently supposed to be accompanied by other gods, or by beings, like the Mother of God among the Roman Catholics, partially endued with divine attributes. All the civilised nations of the modern world, or, to speak more correctly, all the nations whose agreement on a matter of opinion is of any real weight and authority, agree in believing in some form of Christianity. Nor is there much dispute among Christians as

* Report, Appendix, p. iii.

to the moral doctrines of Christianity. Mr. Lewis mentions the degree of affinity within which marriage may be contracted, and the lawfulness of its dissolution, as the only material points of difference. The necessity, for salvation, of some particular opinions, and the lawfulness of persecution, might also, perhaps, be considered as exceptions. It may be said that these last-mentioned views are generally abandoned by Protestants and retained by the Church of Rome. The fact, however, is, that both among Protestants and Roman Catholics these views are retained in formularies of belief and doctrine, but rejected by the enlightened portion of the public. The opinion that misbelievers (miscreants, as our Norman ancestors called them) may be saved, is a modern innovation, and so is the opinion that the magistrate ought not (to use the words of our own Liturgy) to maintain truth; — that is to say, to repress error by punishment, or, at least, by exclusions and disabilities. The Church of Rome, to which the claim of infallibility is like a coat of mail — a prison as well as a defence, — cannot openly repudiate these doctrines. But the belief in them of its enlightened members is no greater than that of enlightened Protestants.

But though there is a general concurrence throughout the civilised world as to the correctness of the historical outline of Christianity, and as to its moral doctrines, there is no tendency to concurrence as to its metaphysical dogmata, or as to the positive forms by which the ministers of a Christian church ought to be governed and appointed, or, in other words, as to Church discipline. Of these questions the former class most affect the imagination; the latter, the judgment. It is only in peculiar states of mind that people take a deep interest in the former; the latter are too practical to be ever disregarded.

When we treat of the relation of the Father to the Son, of the procession of the Holy Spirit, or of the compatibility of Unity and Trinity, we engage in inquiries attractive from their vastness and their obscurity, but without any influence on the actions of man. In considering whether the Church ought to be governed by bishops or by presbyters, — whether lay nomination, ecclesiastical selection, or popular election be the best mode of appointing ministers, — we discuss important political institutions.

But neither the one class of questions nor the other seems to be susceptible of a perfect solution.

Questions of Church government, being political questions, are affected by circumstances of time and place. Different forms may be useful in the same society at different periods, and in different societies at the same period. One arrangement

may suit a monarchy, another an aristocracy, and another a democracy. Much may depend on the degree of secular education among the people; much more on their moral habits and on their religious knowledge. No one can believe that the Free Church would work as well in Sicily or in Poland as it does in Scotland or in the United States; or that the private patronage which gives to England a parochial clergy, in many respects excellent, could be tolerated in France.

Such institutions, too, offer only a choice of advantages, and consequently also a choice of evils. Some peculiar merits and some peculiar inconveniences attach to every arrangement. One system may produce an aristocratic clergy, connected with the higher orders by birth, fortune, and education, bringing into the church larger incomes than they derive from it, liberalised by general literature and foreign travel, influencing the aristocracy because they live with it, influencing the lower classes by their superiority of learning, position, and fortune, and still more by their patronage and charities; the centres, among the rural gentry, of refinement and civilisation, but never mixing familiarly with their inferiors, neither partaking their pleasures, nor contributing, by contact, to the improvement of their manners. Another system may send out a clergy drawn from the lower orders, acquainted with their habits and wants, sympathising with their feelings, living in their society, joining in their amusements, just sufficiently raised above them to inspire respect without awe, and to elevate, by conversation and example, their moral and intellectual standard; but, at the same time, excluded, by birth, fortune, and manners, from the society of the gentry; never influencing or attempting to influence their opinions or conduct, and treated by them, like the village farrier or the village schoolmaster, as useful and respectable inferiors.

Doctrinal questions, on the other hand, seem unsusceptible of general agreement, not from the abundance, but from the want, of premises. The arguments by which different sects defend their tenets consist mainly of texts of Scripture, which must be susceptible of various interpretations, since they actually receive various interpretations. With no facts to refer to, and no umpire to interpose his authority, the wrestlers waste whole lives in eventless struggles, neither party having any fulcrum by which he can lift the other.

'We may discern,' says Mr. Lewis, 'a certain analogy between the perpetuation of a particular form of Christianity and the perpetuation of a particular language. Both belong to a class of which the forms are various; but each variety, having once arisen, is unchanging,

and, when adopted by a nation, remains. Both prevail locally, and are transmitted, by a faithful tradition, from father to son, and both are diffused by colonisation and conquest.'*

'The practical deduction from these results,' he adds, 'seems to be, that the mere authority of any church or sect cannot, of itself, command assent to its distinctive and peculiar tenets while the present divisions of Christendom continue; and that a person, born in a Christian country, can with propriety adopt only one of two alternatives; viz., either to adhere to the faith of his parents and predecessors, and that of the church in which he has been educated; or, to form his own judgment as to the choice of his sect by means of the best independent investigation which his understanding and opportunities for study enable him to make.'†

There is one circumstance which, in England, impairs authority in matters of religion, to which Mr. Lewis has not adverted. It is the state of English law and English opinion on infidelity.

Christianity, we are told, is parcel of the law of England; and therefore to 'write against Christianity in general,' to use the words of Holt, or 'to impugn the Christian religion generally,' in those of Lord Kenyon, or 'to impeach the established faith, 'or to endeavour to unsettle the belief of others,' in those of Justice Bayley, is a misdemeanour at common law, and subjects the offender, at the discretion of the court, to fine, imprisonment, and infamous corporal punishment. The statute law is rather less vague. By the 9 & 10 Will. III. cap. 32., whoever, having been educated a Christian, shall by writing, printing, teaching, or advised speaking, deny any one of the persons in the Holy Trinity to be God, or assert that there are more Gods than one, or deny the Christian religion to be true, or the Holy Scriptures of the Old and New Testament to be of divine authority, shall, for the first offence, be incapable of holding any office or place of trust, civil or military, and for the second, be imprisoned for three years, and be incapable of suing in any court of law or equity, or of accepting any gift or legacy. The punishment for denying the doctrine of the Trinity was repealed in our own times; but the remainder of the statute is in full force at this day. It is true that, in these times, neither the common law nor the statute is likely to be enforced against a sober, temperate disputant. The publisher of the translation of Strauss has not been punished. But his safety is precarious. If any one were so ill-advised as to prosecute him, he must be convicted of libel, unless the jury should think fit to save him

* P. 73. † P. 103.

at the expense of perjury; and we doubt whether the court would venture to inflict on him a mere nominal sentence.

But the repression of infidelity by law is far less formidable than that which is exercised by public opinion. The author of a work professedly and deliberately denying the truth of Christianity, would become a Pariah in the English world. If he were in a profession, he would find his practice fall off; if he turned towards the public service, its avenues would be barred. In society he would find himself shunned or scorned,—even his children would feel the taint of their descent. To be suspected of holding infidel opinions, though without any attempt at their propagation,—even without avowing them, is a great misfortune. It is an imputation which every prudent man carefully avoids. Under such circumstances, what reliance can an Englishman place on the authority of the writers who profess to have examined into the matter, and to have ascertained the truth? Can he say, 'Their premises and conclusions are 'before the public. If there were any flaw in them it would 'be detected and exposed'? The errors committed or supposed to be committed by writers on the evidences of Christianity, may be detected, but there is little chance of their being exposed. It may perhaps be safe sometimes to impugn a false premise, or an unwarranted inference, but never to deny a conclusion. It is dangerous, indeed, to assert on religious matters any views with which the public is not familiar. There are probably few more strictly orthodox divines than Bishop Hampden. But he ventured to trace to the schoolmen some theological dogmas which prevail in a large portion of the Christian world, and much of the theological terminology which prevails every where. Such a novelty raised among his clerical brethren a storm of indignation, which broke through all bounds—not only of sense, or moderation, or reason, but even of law,—and induced the University of Oxford to assail him with a *privilegium*, and dignitaries of the Church to push their opposition till they incurred the penalties of a *præmunire*. An individual less firm than Dr. Hampden, or a statesman less resolute than Lord John Russell, would have been carried away by the torrent. To which of its members is the Church—or indeed the country—more indebted than to Archbishop Whately? Who has done so much to explain the doctrines, enforce the precepts, and establish and popularise the evidences of Christianity? But because he ventured to deny that the fourth commandment is still binding, and reminded his logical pupils that the word *persona* means not an individual, but a character, he is believed by thousands to be 'a dangerous man.' It is to this immunity from criticism that we owe the rash

assumption of premises, and the unwarranted inferences with which many theological writings abound. Facts and arguments are passed from author to author, which in secular matters would be dissipated in the blaze of free discussion. Theological literature, at least the portion of it which relates to the doctrines which 'are parcel of the common law,'—has been a protected literature; and much of its offspring has the rickety distorted form which belongs to the unhappy bantlings that have been swaddled by protection.

To this state of things we owe the undue importance given to the few avowedly infidel books which actually appear. They are like the political libels which creep out in a despotism. Their authors are supposed to be at least sincere, since they peril reputation and fortune. What could have given popularity to 'the Nemesis of Faith,' but the persecution of its author? To this also we owe the insidious form in which infidelity is usually insinuated,—intermixed with professions of orthodoxy and conveyed by a hint or a sneer. If Gibbon could have ventured, in simple and express terms, to assert his disbelief in Christianity, all his *persiflage* would have been omitted; and the reader, especially the young reader, would have known that his anti-Christian opinions were the attacks of an enemy—not the candid admissions of a friend. To this also we owe much of the scepticism which exists among educated Englishmen; using the word scepticism in its derivative sense—to express not incredulity, but doubt. They have not the means of making a real independent examination of the evidences of their faith. A single branch of that vast inquiry, if not aided by taking on trust the results handed down by previous inquirers, would occupy all the leisure which can be spared from a business or a profession. All that they think they have time for is to read a few popular treatises. But they know that these treatises have not been subjected to the ordeal of unfettered criticism. As little can they infer the truth of the established doctrine from the apparent acquiescence of those around them. They know that they may be surrounded by unbelieving conformists. And thus they pass their lives in scepticism,—in a state of indecision,—suspecting that what they have been taught may contain a mixture of truth and error which they are unable to decompose. If a balance could be struck between the infidelity that is prevented, and the infidelity that is occasioned, by the absence of free discussion, we have no doubt that the latter would greatly predominate.

The fifth chapter, 'On the Utility and proper Province of 'Authority,' is divided into two portions, of unequal import-

ance. With respect to the first portion — the utility of authority, we have little to say. It contains nothing to which we object, and opens views of little into which we desire to penetrate further. Perhaps, the only point adverted to which we wish Mr. Lewis had treated more fully is, — the auricular confession of the Church of Rome. He seems to think that the objections to that practice arise from its abuse or ill-directed exercise by the confessor.

'The confessor,' he says, 'may be considered as a vicarious conscience, in like manner as professional advice is vicarious prudence. If the penitent makes a full and true confession, the confessor, or spiritual director, pronounces or advises with a complete knowledge of the circumstances of the case, — probably with a knowledge of the penitent's character and position, and always with the impartiality of a judge, — free from personal concern in the matter, and unbiassed by passion or interest. Seeing how blind and partial a judge each man is in his own case, and how unconsciously the moral judgment with respect to our own actions is perverted by the inclinations, it cannot be doubted that such a counsellor, in ambiguous cases of conduct, — such a *ductor dubitantium*, — would be generally beneficial, if the moral code which he administers was well framed, and if his opinion or advice was always honest and enlightened. Unfortunately, however, it happens that the system of moral rules which guides the discretion of the Catholic confessor is founded on a narrow-minded and somewhat superstitious theology, so far as it proceeds upon the distinctive tenets of the Church of Rome; and that the desire of domestic dictation, and of regulating the affairs of families, natural in an unmarried clergy, gives, too often, an improper bias to the influence of the spiritual director.'*

Now we believe that, even in the hands of an honest and enlightened confessor, compulsory confession, — that is to say, a confession in which the penitent is not allowed to select the matters on which he wishes for advice, but is bound, under the threat of incurring mortal sin, to tell every action, every wish, and every thought, — with all its advantages, which are very great, — is, on the whole, productive of a largely preponderating amount of evil. The great objection to it is, that it creates a new sin, — a sin of which a Protestant cannot be guilty, and a sin to which those whose consciences it will affect most mischievously are peculiarly exposed. We can suppose a person so insensible as to be able, without deep humiliation, to stand in mental nakedness before his priest. But a man with such coarse feelings is not likely to have a sensitive conscience. Gross, palpable sins are all that his memory is likely to accuse

* P. 124.

him of. He confesses them, performs his penance, and obtains absolution; and the only evil is, the fear that the sin which has been so easily wiped out may be repeated,—an evil which a resolute and sagacious confessor may generally prevent by aggravating the severity of the penance. But persons, especially females, of shrinking delicacy of thought and feeling, are likely to be both curious in detecting their own mental improprieties, and averse to exposing them. Every attendance at the confessional must be a struggle between shame and duty. If duty prevail, we cannot but suspect that it must be at the expense of brushing off the bloom of the mind. We cannot think that every secret thought can be revealed without familiarising the revealer with ideas which might have passed through the brain without a trace, if attention had not been called to them. If shame prevail, a mortal sin is committed under circumstances peculiarly formidable. It is committed deliberately, before the shrine, while the idea of God is present to the sinner's mind; and it is unabsolved. The feeling of such a sin is likely to drive the timid into religious madness, and to induce the bold to take refuge in infidelity. We know that, in Roman Catholic countries, the necessity of confession is one of the obstacles to a religious life. 'I do not go to church,' we have been told, 'because I do not communicate; and I cannot 'communicate, because I cannot bear to confess.' According to the Roman Catholic creed, such a state of life is one of mortal sin. Those who indulge in it, therefore, must hope that that creed is false, at least in this respect. It is seldom, however, that a person, bred a Roman Catholic, believes his creed to be only partially erroneous. The Church instantly loses her infallible authority. With that authority fall numerous articles, both of faith and practice, which have no other support. A man with a strong predisposition to religious emotions (in the language of the phrenologists, with a powerful organ of veneration,) may stop himself on this inclined plane, catch hold of Scripture, and, like our ancestors, adopt Protestant opinions. But such instances are rare in this sceptical century. In the present state of public feeling, few that abandon Roman Catholicism rest short of deism.

The latter part of this chapter—that which considers the proper province of authority—recurs, in some measure, to the subject of the third chapter,—'The Marks of Trustworthy 'Authority.' In matters of science and of practical deliberation, the best of such marks is what Mr. Lewis terms the power to predict, but what we rather call the power to infer the unknown from the known. As we instinctively believe that there is no

effect without a cause, and that no cause can exist without producing its appropriate effect, it follows that a being of perfect knowledge can predict all that will happen, and for ever. In some portions of astronomy, and in some portions of chemical and mechanical science, our knowledge is perfect. We can calculate what will be the position of many of the heavenly bodies, at a given minute, twenty years or two hundred years hence. We know what phenomena will be exhibited by the chemical compounds which have been already tried. We can tell in how many minutes a given force will draw a given train from London to Exeter.

'Extensive, however,' says Mr. Lewis, 'as our command over nature has become, and wide as is the domain of the useful arts, still every fresh invention, whether mechanical or chemical, is of uncertain success until it has been verified by actual trial and experiment. It is almost as difficult to predict the working of a new machine, as of a new law or social institution. When the problem is simple, calculation can master it; but when the elements are numerous and complex, and when we are not sure that all the influencing circumstances are included, the result is uncertain, and requires verification by experiment in physics as well as politics.'*

Mr. Lewis proceeds to consider, separately, two cases with respect to the determination of the future in human affairs: one, when — from a view of all the circumstances which, taken in their aggregate, constitute the actual state of any country — we predict its state at any definite future period: the other, when, from the same premises, we predict the effects of some given cause; — the results, for instance, of giving to the peasantry of a semi-barbarous country a right to out-door relief; or the results of an attack upon Austria by Piedmont. On the approximation to accuracy of predictions in the latter class depend legislation and foreign policy. The instances of failure in both; the cases in which legislation has aggravated the evils which it was intended to remedy, and has introduced others unexperienced before; the cases in which a foreign policy, of which the aim was peace, has produced war; and one which aimed at aggrandisement has ended in ruin, — show, from their number and their universality, that in no age and in no country has the approximation to accuracy been considerable. There are, probably, no great countries in Europe whose foreign policy during the last two hundred years has not produced, even to themselves, much more harm than good; and yet the last two hundred years are the most enlightened period that the world

* P. 134.

has ever seen. In every country in Europe the principal obstacles to improvement are existing laws. The glory of the Duke of Wellington's administration was the repeal of the laws against Roman Catholics,—that of Lord Melbourne's was the repeal of the greater part of the then existing Poor Law,—that of Sir Robert Peel's, the repeal of the Corn Laws,—that of the present Government is the repeal of the Navigation Laws. We wish that Mr. Lewis had given to us one of his comprehensive sketches of the subjects, on which statesmen are most likely to err in their internal and in their external policy. Such a sketch might serve the purpose of the posts marked dangerous, which the Humane Society erects on the treacherous portions of the ice on the Serpentine. It would say avoid these matters, or skim lightly over them. 'Le précipice est sous la glace.'

As a proof of the difficulty of foreseeing the political results of a given act, it has been remarked that scarcely any assassination, or judicial murder, has produced the results contemplated by its perpetrators. The death of Cæsar did not give freedom to Rome,—the murder of Becket did not weaken the Papal power in England,—the execution of Charles I. merely changed an elderly and imprisoned king into a young and free one,—the execution of Louis XVI. did not strengthen the French Republic,—that of the Duc d'Enghien did not strengthen Bonaparte,—that of Ney did not strengthen Louis XVIII. All these crimes, and almost all similar crimes, have produced results not only different from those which were intended, but opposed to them.

The other class of predictions,—those which attempt to infer from the present state of any country what will be its condition at a given period,—Mr. Lewis treats with little respect.

'Such anticipations,' he says, 'even of the most sagacious judges, can have scarcely better claim to confidence than the predictions of a weather almanack. For example, who, in the year 1788, could have predicted the social and political state of France and a large part of Europe at any period of the Revolution, the Consulate, or the Empire? And even if he had then predicted the great developement of popular and military energy which ensued in France upon the invasion of the French territory, and the attempts to restore the royal authority, his prediction must have been founded on such uncertain and arbitrarily chosen grounds as to deserve little more than the name of a guess. Who, in January, 1848, could have predicted the series of events which have occurred on the continent of Europe since that period? and who, if he had happened to conjecture something near the truth, could have ventured to say that his prediction was derived from sure data?' *

* P. 139.

Mr. Lewis's illustrations cannot perhaps be said to be opposed to his conclusions, but they are not very favourable to them. The two important events which were imminent in 1788 and 1848, were the two great French revolutions. And both were predicted. On the 25th of December, 1753, when no revolution had disturbed Europe for nearly one hundred years, Lord Chesterfield thus wrote to his son:—'Wherever you are, 'inform yourself minutely of, and attend particularly to, the 'affairs of France. They grow more serious, and in my opinion, 'will grow more and more so every day. The people are 'poor, consequently discontented; those who have religion are 'divided in their notions of it, which is saying that they hate 'one another. The clergy never do forgive; much less will 'they forgive the Parliaments. The Parliaments never will 'forgive them. The army must without doubt take, in their 'own minds at least, different parts in all these disputes, which, 'upon occasion, will break out. Armies, though always the 'supporters and tools of absolute power for the time being, 'are always the destroyers of it too, by frequently changing the 'hands in which they think proper to lodge it. The French 'nation reasons freely, which they never did before, upon matters 'of religion and government, and begin to be *spregiudicati;* the 'officers do so too: in short, all the symptoms which I have ever 'met with in history, previous to great changes and revolutions 'in government, now exist, and daily increase, in France.'

In January, 1848, to ordinary eyes, the Orleans' dynasty appeared to be firmly established. Its chief had spent a long life in constant struggle and constant success. He had able ministers, a strong parliamentary majority, an increasing revenue of above sixty millions sterling, and a well disciplined army of nearly 400,000 men, of whom 40,000 occupied Paris and the chain of fortresses (impregnable except by long siege) which surround the city. Nearly fifty years had passed since France gave up in disgust her republican experiment, and she was enjoying, under the mild rule of a descendant from her ancient monarchs, an amount of prosperity such as she had never before possessed or could reasonably have expected. Yet, in the midst of this apparent calm, M. de Tocqueville saw the coming storm. 'Est-ce que vous ne ressentez pas,' said he, on the 27th of January, 1848, 'que le sol tremble de nouveau en 'Europe? Est-ce que vous ne sentez pas — que dirai-je? un 'vent de révolutions qui est dans l'air? Est-ce que vous avez, 'à l'heure où nous sommes, la certitude d'un lendemain? Est-ce 'que vous savez ce qui peut arriver en France d'ici à un an, à 'un mois, à un jour peut-être? Vous l'ignorez; mais ce que

'vous savez, c'est que la tempête est à l'horizon, c'est qu'elle 'marche sur vous.'

Certainly the events which followed each of these revolutions could not have been predicted with equal confidence. It might, however, have been foreseen in 1789 that so vain, ambitious, and unscrupulous a people as the French, when released for the first time in their history from the restraints of regular government, would either provoke an attack from their neighbours, or, as was in fact their conduct towards England, would become the aggressors; that they would be defeated at sea, but would overthrow the selfish, unpopular, and unskilful sovereigns of the Continent; and that a few years of war, whether successful or unsuccessful, must drive them to a military dictatorship. It might again have been foreseen, on the 25th of February, 1848, that the fall of royalty in France would shake every throne in Germany and Italy. That constitutions, based on representative assemblies, would be everywhere required, everywhere granted, and everywhere misused. That the Austrian empire, which has so long been undergoing a process of dissolution under the solvent of the Metternich policy, would lose, at least for a time, its cohesion; that the complicated, cumbrous, and inartificial fabric of the German confederation would fall to pieces; that Rome would no longer submit to be administered by priests; and that Sicily would demand the constitution of which she had been defrauded. All these events might have been predicted on sure data. At the same time, it must be admitted, that many of those which followed were not to be foreseen. No one could have expected the people of Schleswig and Holstein to rebel against a good and improving government, and incur the miseries of civil war and revolution, on a question of succession, which does not call for a present decision, and indeed never may require one. No one could have expected the whole of Germany to sympathise with this wicked folly, and attack an inoffensive and friendly power in order to detach from it two of its most valuable provinces. No one could have expected that a period of weakness and danger, with revolution in her capital, and civil and foreign war in her richest territories, would have been selected by Austria as a fit occasion to annul the ancient constitution of Hungary. No one could have supposed that when this attempt seemed likely to fail, she would have called in the aid of her most formidable enemy, and thrown herself at the feet of Russia. No one could have expected the Romans to drive out the most popular and the most liberal of their popes, or the French Republic to restore an ecclesiastical monarchy. The first invasion of Lom-

bardy by Piedmont surprised no one, but who could have foretold the second? Who could have expected a people and king who, not seven months before, had been saved from destruction only by the magnanimity of their conqueror, to renew the attack whilst their forces were weakened and dispirited, and his were increased in numbers and encouraged by victory? *

The great difficulty in predicting the future state of nations arises not so much from their policy depending on volition as from the want of principles from which their volition, in a given case, can be anticipated. In proportion to the virtue and intelligence of a man we can calculate his future conduct under given circumstances. We know that so far as he is good and

* One of the remarkable predictions of distant events is contained in a letter from the Abbé Galiani to Madame d'Epinay, written in 1771. He thus foretells the state of Europe in the nineteenth century:—'Le résultat est que nous ressemblerons beaucoup plus aux 'Chinois que nous ne leur ressemblerons à présent. Il y aura deux 'religions très-marquées, celle des grands et des lettrés et celle du 'peuple. Il y aura beaucoup de troupes sur pied et presque point de 'guerre. Le grand souverain de l'Europe sera celui qui possédera 'la Pologne et la Russie, et qui commandera à la Baltique, et à la 'Mer Noire. Le reste des princes sera maîtrisé par la politique 'de ce cabinet prédominant. Il y aura despotisme partout; mais 'despotisme sans cruauté; sans goutte de sang répandue. Un des-'potisme de chicane, et fondé toujours sur l'interprétation des vieilles 'lois, sur la ruse et l'astuce du palais et de la robe. Dans ce temps 'là les sciences à la mode seront les physiques. Plus de théologie, 'plus d'antiquités, plus de langues savantes. Pour la jurisprudence, 'toutes les nations de l'Europe auront un code particulier et les lois 'romaines seront anéanties. On tirera la chicane des sources les plus 'magnifiques, telles que l'esprit de la constitution de chacque nation 'et l'ordre essentiel. Les sottes lois favorables à l'exportation et 'contraires à l'importation détruiront tout commerce; car, lorsque 'tout le monde veut donner et personne ne veut recevoir, il en arrive 'que personne ne donne ni ne reçoit plus rien.'[1]

The events of 1848 have impaired the resemblance, but this was not a bad portrait of the Continent in its immediately previous state. The difference in religious opinions between the educated and uneducated classes, the large armies employed in doing nothing, the mild despotism directed by lawyers, the substitution of local codes for the Roman law, the preference of physical to theological or classical studies, the sacrifice of commerce to protection, and the political preponderance of Russia, could scarcely have been described in truer language, if the author had been writing from Vienna in 1847.

[1] 'Correspondance inédite de l'Abbé Galiani,' tome premier, pp. 223—225.

wise he will be governed, first, by his duty, and next by his interest. If he be intelligent, but immoral, he will pursue only his interest. If he be stupid, but moral, he will endeavour to do what he thinks right, though he may mistake the means or even the object. But if he be neither moral nor intelligent — if he have neither virtue enough to select what is right, nor sense enough to know what is profitable, what is to be expected but that he will be governed by the passion or the caprice of the moment? and who can tell what that will be?

Now this is the case of a nation. Any individual who should be guilty of one half of the follies which have been committed by either France, Prussia, Schleswig, Holstein, Baden, Austria, Lombardy, Venice, Rome, Tuscany, or Naples, during the last two years, would be placed by his friends under restraint, as incapable of managing his own affairs. Any individual who should be guilty of one half of the crimes of which every one of these highly-civilised nations has been guilty during the last two years, would be hunted out of society. What would Charles Albert, or what would any of Charles Albert's counsellors have said, if he had been advised to behave to a private individual as Piedmont behaved to Austria? How would Odillon Barrot and Falloux have received a proposal to enter forcibly on the estate of a friend, in order to preserve their legitimate influence with him; and, if he refused to admit them, to break open his house and murder his servants? The *wickedness* of nations may probably be explained by the weakness of a diffused responsibility, by the absence of a superior, capable of punishing wrong doers, by the frequent success of violence and fraud, and by the consequent absence of any well-regulated public opinion. They are examples of what individuals would be in that unnatural state which has been called the state of nature, without law and without justice. The *folly* of nations principally arises from their comparative inability to profit by experience. The experience of a man is personal, — that of a nation historical. A man retains his identity. He is the same person at sixty as he was at twenty. He recollects what was his early conduct, and what were its fruits. The identity of a nation is perpetually changing. Every thirty years the conduct of its affairs is in the hands of a new generation, who know only from tradition the fortunes of their predecessors. How many are now the statesmen of France who took part in its affairs under the empire? How many of those who are now active in its public business, will in twenty years be removed by death, or illness, or indifference, or exile? How many will have succeeded to them, who now think of nothing but their education, or their profession, or their plea-

sures? To learn from the experience of others, is the privilege of a rare degree of intelligence. But this is what a nation must do, if it is to learn from any long experience: for its own is that of only a few years.

The sixth chapter treats of the number of persons competent to guide opinion on any subject, as compared with the number of the rest of the community. That number Mr. Lewis finds to be very small; consisting, in fact, of the most distinguished members of the small minority who have made the different subjects of speculation and practice matters of especial study. But though he sets little value on public opinion as a guide to truth, he attaches great importance to it as a guide to conduct. The statesman must humour the feelings, the prejudices, and even the follies of the people. To what extent he must do this, depends not so much on any general principles of human nature, as on national and temporary peculiarities. In Southern India, among a people who have borne taxation up to confiscation without a murmur, the alteration of a turban produced an insurrection. The English of the sixteenth century allowed Henry VIII., Edward VI., Mary, and Elizabeth, to change the national religion from Catholic to semi-Catholic, from semi-Catholic to Protestant, from Protestant to Catholic, and from Catholic to Protestant. The English of the seventeenth century passed the Test Act, and would not permit even toleration.

'There are other subjects,' adds Mr. Lewis, 'in which the 'taste of the great body of the people establishes a standard, for the guidance of those whose business it is to supply the 'public with amusement, or by speech or writing to reach their 'feelings or convictions.'

In public speaking, acting, painting,—in short, in every art which is addressed to the public at large,—popular favour is the criterion of success. The poet, the musician, the architect, the sculptor, is most successful whose work is most admired. Is he then the most excellent? 'No,' says Mr. Lewis: 'true excel-'lence in each art is to be decided by the judgment of persons 'of exercised taste and observation in that art, not by the 'opinion of the multitude.'* But if the persons of exercised taste and observation differ in opinion from the public, where are the premises, by means of which the question is to be decided? If works of art, which are produced for the simple purpose of giving pleasure, actually give that pleasure,—how can it be proved that they ought not to do so? It appears

* P. 187.

to us that this is a question which can be solved only by posterity.

'Est vetus atque bonus centum qui vixerit annos.'

A future age may reverse the decision of the many, or of the few; or even that of the many and few combined. The euphuists of Queen Elizabeth's days were as universally admired as they would now be derided. Sometimes, though rarely, the taste of successive generations oscillates. For about six centuries Gothic architecture was the object of universal and almost exclusive veneration. Its works covered Italy, Spain, France, Germany, and Great Britain. Then followed two centuries, during which it was despised; and some of its finest specimens were supposed to be improved by Grecian additions. Now public favour has returned to it. A somewhat similar fate has befallen the Flemish painters, Hans Hemmling, Van Eyck, and the other masters of that formal, highly-finished, and yet simple school.

There is one art, however, of which, as Mr. Lewis has remarked, the ultimate test is immediate success, — and that is oratory, to which may be added acting. All other artists look for the admiration of future ages. They strive to produce something which the world will not willingly let die. The actor can look only to the present. He may, indeed, hope to live for a few years in the memory of those whom he has charmed; but when they are gone, all that remains of powers, which the greatest poets and the greatest orators might have envied, is a name, which tells us no more than the inscriptions on the monuments of Nineveh. What do we really know of Roscius, or Henderson, or Le Kain, or Clairon? To how many is Siddons more than a name, or even the star that has just set, Catalani? If Jenny Lind should execute her cruel purpose of leaving the stage, what will survive fifty years hence of the meteor which passed over Sweden, Germany, and England, but the recollections of a few septuagenarians, and a tradition that the name of Lind once expressed the perfection of acting and of song? The orator, indeed, may be reported, or may re-write his speeches, and in that form may delight posterity. But what is a written speech? We know that the author of the best written speeches which we possess, probably of the best that ever were written, held that the real merit of an orator consisted, not in his literary, but in his histrionic powers; not in his composition, but in his delivery. We know that his written eloquence, when reproduced by his illustrious rival, with all the histrionic advantages which that great speaker could give to it, was, by the confession of Eschines himself, merely a faint imitation. When we read a speech we

apply it to purposes for which it was not intended. We seek in it instruction and amusement. The orator, if he was a real orator, did not intend to instruct or to amuse. His purpose was to persuade. Wit, imagination, philosophy, every merit of style and composition which did not contribute to this object, he rejected. If repetition, exaggeration, over-strained passion, or any other kind of false taste, was useful, he admitted it. O'Connell knew as well as we do that he talked nonsense about hereditary bondsmen and the finest peasantry in Europe; but while pouring out that nonsense he was one of the greatest, because he was one of the most effective orators, that ever spoke. All that has come to us of Sheridan's celebrated speech on Hasting's trial appears, when we read it in cold blood, tawdry trash; but we know that it was a great speech, not from the praises that were bestowed on it, but from the effect that it produced.

The seventh and eighth chapters may be considered together. They treat of the application of the principle of authority to political bodies:—

'There is,' says Mr. Lewis, 'one subject in which it is necessary that opinions should be counted, and not weighed; that the greater number should prevail over the less, without reference to the intrinsic value of their opinions, and should decide the practical course of action. This subject is civil government, so far as it depends on the decisions of political bodies. In the following remarks, I propose to examine the causes of this necessity, and the extent to which its consequences are moderated and counteracted in practice by a voluntary deference to the contrary principle.

'In the earliest governments which history presents to us, viz., those of the great empires of Western Asia, everything, from the monarch down to the lowest civil functionary, was organised on the principle of individual action. Being all absolute or despotic monarchies, the principle of a political body was indeed necessarily excluded from the form of their supreme government; the sovereignty always resided in a single person, and not in any council of nobles or popular assembly. No trace of corporate action, no vestige of the existence of any board, or jury-court, or collegium, can be discovered even in any subordinate part of the political system of the purely Oriental States; nor have they, at the present day, advanced beyond this very simple and primitive organisation.

'Oriental civilisation has never yet reached the stage which is compatible with discussion concerning common interests, by a body of councillors possessing equal rights, each of them entitled to give advice to the rest, and to express an independent opinion. The qualities essential to oral discussion in a numerous assembly are, toleration of contradiction and censure; with such a power of self-command and suspension of the judgment, as enables a person to

listen to, and understand, arguments hostile to his own views; to treat them with deference, and to give them a suitable answer. If these qualities do not prevail throughout the assembly, the assertion of adverse opinions, and their comparison and examination, are rendered impossible; the speaker is interrupted by clamour, vociferation, denials, insults, and threats; the entire assembly becomes a scene of turbulence and confusion, and intelligible debate is at an end.*

It is remarkable how well the last sentence describes an animated debate in the late Constituent Assembly of France. In that assembly a speech on any exciting matter was not a continuous discourse. It was a series of short sentences, or attempts at sentences, each of which was interrupted by an explosion of fierce denial or ferocious abuse from one side or from the other. Then followed the reprimands, the complaints, and at last the entreaties of the president, exhorting, threatening, and beseeching for order and silence. Then came, perhaps, a few moments of calm, the screamers being exhausted, and the speaker got out another sentence, which provoked a repetition of the storm. The debate was a sort of trilogy, to which the interrupters contributed the greatest part, the president the next, and the speaker by far the least. The present Assembly is a little more orderly, partly because it was originally rather smaller in number, and partly because the Thirteenth of June has removed its most vociferous members; but a stranger does not easily believe that it exhibits the collective wisdom, and still less the collective good breeding of France.

Mr. Lewis discovers the first traces of political bodies among the Greeks, from whom they were imitated by the Carthaginians and the Romans. Some centuries later they are found among the Gauls and Germans, either as a native institution or imported from Italy. On the fall of the Roman Empire the Goths and Germans introduced them into every part of Europe; and though their power was weakened by the despotisms which existed in the greater part of Continental Europe during the sixteenth, seventeenth, and eighteenth centuries, they have recovered their power in the nineteenth, and are now the principal instruments by which civilised nations are governed.

The instant that they were established it became necessary to ascertain by what means their opinion should be ascertained. There are, of course, only three expedients, — to require unanimity, or to let the decision depend on the vote of the majority, or of the minority.

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* P. 191.

Unanimity is usually required at congresses constituted of the delegates from sovereigns. Nations generally, and with great reason, distrust one another too much to consent to be bound by any voice except their own. The consequence is, that congresses seldom produce a result, except where the parties were previously agreed in principle, and meet merely to settle the details. The Congress of Vienna broke up without any decision, and probably would not have been reassembled unless Bonaparte's return from Elba had frightened its members into sudden unanimity. The Congress of Verona met merely to arrange the means by which a common purpose was to be effected. In the Congress of 1840 France objected to every thing, and the four other Powers were forced to settle the Eastern questions without her. The Congress which was proposed to be held in Brussels in 1848 on the affairs of Italy was never complete, and the ministers who attended it separated without a protocol. Mr. Lewis remarks, that the unanimity required from English jurors gives rise to many inconveniences, — such as unmeaning compromises, tossing up for verdicts, and forcing concurrence by starvation, — but has been found consistent with a regular, if not a very intelligent administration of justice. Perhaps its most useful result is the necessity which it imposes on the judge of making his charge so clear that not a single juryman shall remain unconvinced. If a mere majority could give him the verdict which he thinks just, he probably would take less pains to demonstrate its propriety than when he can be defeated by the opposition of one individual.

In some political bodies an unreal appearance of unanimity is obtained by an agreement between the members to carry into effect the decision of the majority, and to conceal their own differences. This is the usual conduct of cabinets in representative governments. Sometimes one or two questions are left open, as too important for compromise. On these the members of the cabinet are at open variance. On all others they profess to agree. It seems at first sight monstrous that men should vote and even speak in favour of measures which they believe to be mischievous; but it is unavoidable. If all questions were open, and the minority of the cabinet opposed or merely refused to support the majority, few important measures could be carried. All such measures, whatever be their merits, have also their disadvantages. They offer sometimes only a choice of dangers, sometimes only a choice of evils. And yet action, perhaps immediate action, may be necessary. If members of the cabinet which proposes such action were known to be opposed to it, they would often be followed by a majority of the House.

On the other hand this practice weakens the authority of a cabinet minister in debate. The House is never certain that he does not utterly disapprove the resolution which he is urging it to adopt.

'It seems scarcely necessary to prove,' continues Mr. Lewis, 'that if the decision is not to be unanimous, it must be made by a majority; the hypothesis of the minority of a political body prevailing, by their votes, over the majority, leads to all sorts of practical absurdities.'*

There are, however, some circumstances under which this must occur, unless the decision depends upon a bare majority. There are many cases in which the question is not in what direction we shall advance, but whether we shall advance or remain stationary; whether we shall act or be quiescent. In such cases, if unanimity, or anything more than a bare majority be required for a decision, and the minority be in favour of quiescence, the minority in fact prevails over the majority. It has the power of stopping every proceeding of the aggregate body; and, if it consent to allow it to act, may impose such terms as it thinks fit. This was the secret of Lord Eldon's influence over the cabinets of which he was a member. He was generally opposed to action, always to improvement, and his hostility to any reform was to be mitigated only by exceptions, omissions, and qualifications, which destroyed three fourths of its efficiency. He was the tribune of the narrow-minded oligarchy, and never was intercession more profusely interposed. One or two bigoted cantons exercised a similar power under the old Swiss Pacte. They conceded only on their own conditions the few acts which they allowed the Diet to pass.

'Decision by a majority,' continues Mr. Lewis, 'places all the members of the body upon the same footing, and gives an equal value to the opinion of each. It makes no distinction between them as to competency, but allows the same weight to the vote of the persons most able, and of those least able, to form a correct judgment upon the question to be decided. It therefore proceeds upon a principle directly opposed to the principle adopted voluntarily by those who are not restrained by legal rules,—in guiding their practical conduct by the opinions of others, *they* look not to numbers, but to special fitness.

'The necessity, however, of having recourse to this principle arises from the nature of political government, and the expediency of a coercive supreme power which it implies. Whenever the ultimate decision is vested in a body, there is, by the supposition, no ulterior authority which can, in case of difference of opinion, determine who are competent judges, and who are not. There is, therefore, no

* P. 207.

other alternative than to count the numbers, and to abide by the opinion of the majority. The contrivance may be rude, but it is the least bad which can be devised.

'A decision by the majority of a political body is, in some respects, analogous to a battle between the armies of two independent nations. It settles a question which must be settled, and which cannot be settled in any other manner. The one is an appeal to physical force, the other is an appeal to moral force; it is the right of the stronger reduced to a legal expression.' *

Mr. Lewis proceeds to consider the means by which this inherent defect in political bodies — the preference of numbers to integrity, talents, and knowledge — may be palliated.

An obvious and common expedient is to give to persons having some quality, which is supposed to be a mark of peculiar fitness, additional votes. The quality generally selected for this purpose is the possession of property. It is the least invidious, since every one may hope to acquire it, — it is the most easily ascertained, and when owing to inheritance, generally implies superior education, — when created, talent, or at least good conduct. In the confederacies of independent States, where the decision of the majority binds, political power is substituted for property. Thus, under the Germanic confederation, the six most important States had each four votes, the five next three votes each, the three next two votes each, and the twenty-four others had a vote a-piece.

Another expedient is the voting by, what Mr. Lewis calls, composite units. Thus in Rome, for certain purposes, the people voted by centuries, and the majority of centuries prevailed. But power was given to the rich by constituting from them several small centuries, and taken from the poor by throwing them into a few large ones. Under most European constitutions the supreme power resides in what we may, for the present purpose, call three estates, the king or other chief ruler alone forming one. The Queen of England has, theoretically, as much legislative power as the House of Lords or the House of Commons.

Far more effectual than any of these expedients, or indeed than all of them combined, is representation — next to the creation of political bodies the greatest step that has ever been made in the art of government. The experience of many thousand years has shown that the action of the democratic element is necessary to the existence of even the very defective amount of good government which any portion of the

* P. 210.

world has as yet enjoyed. Pure monarchies, and pure aristocracies, and the mixture of the two, have always sacrificed the interests of the many, where they appeared opposed to those of the one or of the few, and have generally misunderstood them when they wished really to promote them. But until representation was invented, it was impossible to apply democracy either to a large country or to a large population. The inhabitants of the island of Elba are perhaps not too numerous to manage their own affairs directly; but small as the island appears, probably not one tenth of the people would be able to attend habitually any place of public council. No part of Paris is distant an hour's walk from the centre, but the number of its inhabitants is too large for direct political action. The result of the attempt in 1848 was the extemporisation of a republic by a few thousand ruffians, to the astonishment of the mass of the people and to the shame and consternation of the educated classes. Representation has solved this difficulty. By its aid the largest territory and the densest population may be governed democratically as effectually as a village. This was probably the only purpose for which representation was originally introduced. A further incidental advantage is, that the representative is generally superior in education to the mass of his electors. There is a tendency, indeed, in popular constituencies, to select persons belonging to the highest aristocracy, partly because they are more generally known, and partly because the pretensions of a superior excite less jealousy than those of an equal. Many contrivances have been adopted for the purpose of increasing the chances of a good selection. Neither voting by composite units, nor the giving to an individual additional votes proportioned to his property (familiar as they are in the choice of officers), have been applied to the choice of representatives; but in most representative governments the possession of a certain amount of a certain kind of property has been required as a qualification for the elector and also for the elected. Women and children, and unnaturalised foreigners, are universally excluded. So are generally persons receiving public assistance, persons in the immediate employ of the government, and sometimes persons not professing the religion of the state. These and similar exclusions constitute the genus of representative governments, to which the name of *exclusive* may be given.

Mr. Lewis has not, we think, paid sufficient attention to this genus. He appears to treat an exclusive government as an aristocracy; but it seems to us clear that a government may be at the same time very exclusive and yet very democratic. Athens, under Pericles, was a democracy, though nine tenths of the

Athenians were excluded from the government. France, under Louis Philippe, was more democratic than England, though the French voters were not one in a hundred, and the English voters were about one in twelve.

Another plan is indirect election. This is merely carrying the elective principle one stage further. As the qualities which fit a man to be an elector are less rare, and are more easily ascertained than those which fit him to be a legislator, it is more likely that the people at large will select good electors than good representatives. It has the further advantage, that it is the least dangerous mode in which the principle of exclusion can be altogether got rid of, or, in other words, universal suffrage be granted. And this is no slight advantage. Exclusive governments are forced to adopt arbitrary lines of demarcation. There is no substantial reason for giving a vote to a householder and not to a fundholder; or to the occupier of a house worth 10*l.* and not to the occupier of one worth only 9*l.* 19*s.* The excluded, and therefore dissatisfied majority, are always a cause of weakness. To these correctives of the pure numerical principle must be added the influence of leaders among the electors, and that of political connexions, and of heads of parties, in the representative body.

'It follows,' concludes Mr. Lewis, 'from what has been said in this and the preceding chapter, that popular government, as now understood and carried into effect, for large territories, by means of the representative system, is to a great extent founded, legally and theoretically, upon the numerical principle; but that morally and in practice, the working of this principle is modified, counteracted, and crossed in various directions, by the influence of the antagonist principle of special fitness. In arranging the terms of this compromise, and in adapting them to a given community, lies the secret of a free constitution.

'A compromise of this kind (as we have already had occasion to remark in reference to the subject of decision by a majority), necessarily implies a junction and an amalgamation of opposite principles. It supposes that sufficient weight will be given to the numerical principle, for interesting the bulk of the community in the existing order of things, and attaching them to the government; while such an admixture of the principle of special fitness will be secured, as will prevent the government from falling into the hands of persons who, from their ignorance, inexperience, or want of judgment, are incapable of properly directing its course.'*

On one of the most important questions connected with representation, we are sorry not to have Mr. Lewis's opinion.

* P. 278.

It is this. The number of representatives and of constituents being given, what are the advantages and inconveniences of comparatively large and small constituencies, and consequently of numerous, or few, or even individual representatives? There being, for instance, within a given district, 400,000 constituents, who are to return twenty representatives, what would be the effect of throwing them into one, or perhaps two constituencies, each man voting in the former case for twenty, and in the latter case for ten, representatives, as compared with the effects of dividing them into twenty constituencies, each returning a single member, or into ten, each returning two members?

The latter is the English system. The city of London is the only constituency which returns more than two members, and several return only one. The other is the modern French system. Each of the eighty-four departments returns a portion of the seven hundred and fifty representatives, proportioned to its population — the smallest number being three, and the largest twenty-eight.

The most obvious tendency of the French, or collective, or, as it is called in America, the ticket, system, is towards the disfranchisement of all but the members of a single party. If France were one constituency for the election of representatives, as it is for the election of a president, and each elector had to vote for 750 representatives, it is probable that a single list would prevail, almost without alteration. We will suppose the country divided into Legitimists, Orleanists, Bonapartists, and Republicans, in the following proportions: four thirteenths Republicans, and three thirteenths belonging to each of the other denominations. Under such circumstances the Republican party, though scarcely exceeding one fourth of the whole population, would return nearly the whole Assembly. If there were only two parties, about equally balanced in numbers, mere accident would decide which should be not merely omnipotent, but unopposed, and which should be not only excluded from power, but unrepresented. If such be the effect of the collective system when fully carried out, such must be its tendency when partially adopted. And it must be admitted to be most mischievous both to the successful and to the unsuccessful party; impelling one to acts of insolent oppression, and driving the other towards disaffection and revolution. The other extreme—that of subdividing the voters, so as to give a separate constituency to each representative,—has a tendency, though in a much slighter degree, to produce a similar effect. In each constituency one party only is represented, though the frequent agglomeration of persons of the same political opinions in particular districts, would

probably ensure, if the districts were small, a representation of the minority. The plan, however, which effects this most effectually, often, indeed, to excess, is that which, with the single exception of the city of London, was adopted by our ancestors: the giving two members to each constituency. The natural result is a compromise — the return of one member by each party. If there were two constituencies of 1025 voters each, 525 in each being Tories, and 500 Whigs, and each returning a single member, it follows that two Tories would be returned. If they were thrown together, and had to return two members, it is probable that the result would be, one Tory and one Whig. The 1050 Tories would not attempt to carry two members against the 1000 Whigs. Perhaps the arrangement which best reconciles the two important purposes of giving preponderance to the will of the majority, and of securing a fair hearing to the minority, is, to give to each constituent body three members. The majority must always return two. The minority, unless it were very weak or very negligent, could seldom be prevented from carrying one.

On the other hand, the collective system is comparatively favourable both to the selection of fit representatives, and to their good conduct when selected. A small constituency is open to bribery, and is exposed to intimidation; where these are not used, its favour is gained by treating, by canvassing, by flattering its prejudices and perhaps its evil passions, its national animosities, its envy or its intolerance, or by pledges which it may be infamous to break and wicked to keep. Its favour is retained by local expenditure, by jobbing, by sacrificing to its petty jealousies and temporary convenience, or to its commercial, or manufacturing, or agricultural monopolies the large and permanent interests of the community; by yielding to its narrow-minded fancies and gratifying its ignorant antipathies. From these evil influences a collective constituency is free. No one can purchase or frighten, or even canvass a whole department. The leading men of each party make out their lists. They decide for their respective followers, who among the candidates of their own opinion shall be supported. They do not select provincial magnates or local demagogues, the stars of a country town, but men of metropolitan reputation. The representative is independent of his constituents. He has not purchased them by promises, and need not sell them for places. While the great public of the people approve his conduct, he may despise local unpopularity. If he become a distinguished member of the Assembly, he is sure at the next election to be put upon twenty different lists: he can afford, therefore, to act

honestly, without being degraded by the fear which always disturbs the imagination and distorts the policy of an English statesman,—the fear of losing his seat.

We cannot quit this portion of the work, without considering a subject slightly alluded to by Mr. Lewis in the seventh chapter —the propriety of admitting into legislation and administration a system of compromise and fiction;—a system, according to which, sometimes a principle acknowledged, and partially acted on, is not fully carried out; sometimes two inconsistent principles are each avowed, and each from time to time obeyed; and sometimes a theoretic rule of conduct is laid down, and in practice is violated systematically. The extent to which this system prevails in England is almost ludicrous.

Thus, in theory, the English sovereign is a substantial power. He selects and dismisses his ministers, his pleasure is taken on all appointments, he gives or refuses validity to all legislation. In practice the Crown is a phantom, accepting the ministers tendered to it by the Commons, retaining them while they retain the confidence of that House, placing at their disposal all its patronage, and assenting to every bill which the two Houses have agreed on. According to the theory of the English law, marriage is indissoluble. In practice, in case of the wife's adultery, it is dissolved by a private law. In theory, the intermarriage of the adulteress and her paramour is forbidden. There is a standing order of the House of Lords that no divorce bill be read, which does not contain a clause to that effect. In practice such intermarriages are constant. A motion is always made, and always assented to by the House, that, for this one time, the standing order be suspended. The English consider, and with reason, the publication of the debates in the House of Commons one of their most important usages. There are few single causes to which so much good, and, we must add, so much evil, is to be attributed. But this practice, which influences sometimes mischievously and sometimes beneficially the whole course of our government, is not merely unprotected by law,—it is positively illegal. It is a contempt of the House of Commons; and, from time to time, some Irish member summons to the bar the printer and publisher of a newspaper, and threatens them with imprisonment, ostensibly for reporting, really for not reporting the complainant in the dimensions which his senatorial rank requires. Even the presence of auditors is a violation of the standing orders of the House. The debates which, in hundreds of thousands of reports, fly through the whole civilised world are, in theory, secret. Nor is the standing order, like some others, invoked only to be dispensed

with. It is enforced not on the motion, but merely at the suggestion of a single member, without an appeal, without even a discussion.

The whole jurisdiction of our Courts of Equity is one gigantic compromise. The English common law judges,—perhaps the least intelligent makers, and the most perverse interpreters of law, that the world has ever seen,—laid down and adhered to certain rules respecting property and contracts, against which common sense revolted. The clerical Chancellors resolved to get rid of them. They could not control the common law courts. But they forbade all persons to have recourse to them for these purposes. 'The law,' said the 'Chancellor, 'which gives to the mortgagee the mortgaged 'property, if the mortgagor does not repay the principal on the 'appointed day, is unjust. We cannot prevent the courts of 'law from adhering to their rule, but woe be to the suitor who 'accepts their assistance. He is guilty of a contempt of the 'Court of Chancery, and shall be imprisoned until he makes 'restitution.' So, again, if a man, forced to take part in a civil war, entrusted his property to a friend, in less danger of forfeiture or confiscation than himself, the courts of law said, the property has been given to the trustee, it is his, and he shall keep it. The Court of Chancery said, it is not his, he shall not keep it, and though we have not the means of taking bodily possession of it, and handing it over to the true owner, we will imprison the trustee until he gives it up. One of the strangest parts of this strange system is that the courts of law acquiesce in it. They acknowledge the monstrous injustice of their own rules, but say that they do no harm, since the Courts of Equity supply a remedy. And thus a state of things has grown up, unintelligible to any but the lawyers of England, and of the nations that have borrowed their institutions from England, under which nearly all the property of the country has two different owners, often two different sets of owners; one having a clear indisputable title at law, and therefore called the legal owner, the other having a clear indisputable title in equity, and therefore called the equitable owner.

But though this spirit of compromise and fiction is carried by us to excess, we admit, with Mr. Lewis, that within limits, (which, however, are not capable of being predefined,) it is valuable,—that it may often be useful 'to establish a principle on 'account of certain effects which it produces, and as far as 'regards these effects, to allow an unimpeded course to their 'action; but, with respect to other effects, which would, if per-'mitted to arise without restraint be productive of mischief, to

'try to neutralise and impede them by adverse and repressing 'influences.'*

The ninth chapter, on the propagation of sound opinions by the creation of a trustworthy authority, is one of the most important in the work: but we are so near our limits, that we can consider only a small portion of it, — that which inquires whether it is the duty of a Government to diffuse and encourage religious truth, and to repress and discourage religious error. Mr. Lewis begins by laying down, in bold and unqualified terms, that the only criterion for trying the duty of the State to interfere in any matter, is the expediency of the interference.

'If the interference,' he says, 'is likely to be attended with advantage to the community, if the end to which it is directed be good, and it be likely to promote that end, then the duty of the State is to interfere.

'The question as to the duty of the State with respect to the encouragement of truth, and the discouragement of error, must be decided on these grounds. Everybody admits that (provided his own standard of judgment be adopted) it is right and fitting to encourage truth and discourage error. About the desirableness of the end there is an universal agreement: that the promotion of this end lies, theoretically and legally, within the province of the State, and that a government possesses powers which can be directed towards this object, are certain. It follows that, if the attempt is likely to be attended with success, and to be, on the whole, advantageous to the community, it ought to be made; but that if the attempt is likely to fail, and the cause of truth is not likely to be promoted by it, the State ought not to interfere.'†

There is no doubt that religious error is one of the causes which have most interrupted the advance of civilisation. It seems to arrest a nation at some point of its progress, and to prevent, or at least materially to retard, its further improvement. Even one of the least oppressive of superstitions, — that of the Greeks and Romans, — though it permitted great intellectual developement, so perverted the moral feelings of the two races, that, in both the one and the other, the period of splendour was soon followed by one of irrecoverable decline, until each fell before invaders inferior in knowledge and refinement, but superior in the virtues which enable countries to retain their independence. The nations which have professed Buddhism, Hindooism, Mahometanism, and the creeds which govern China and Japan, have all, sooner or later, reached a point at which they have been stationary for ages. The only religion which admits of unlimited improvement is Christianity, and the forms of it which we believe

* P. 236. † P. 288.

to be least infected by error, are the most favourable to the diffusion of real civilisation. The only great Roman Catholic population in Europe which can be compared to the Protestant populations is that of France; and it is to be observed that the really Roman Catholic portion of the French, the peasantry, are far less civilised than the Protestant peasantry of Germany, Holland, and England. The dirt, untidyness, and general discomfort of a French village are intolerable to any one who enters France from a Protestant country.

Such being the mischievous tendencies of religious error, is it in the power of the State to prevent its introduction, or to extirpate it when introduced?

Mr. Lewis thinks that it is.

'That the system,' he says, 'of enforcing religious truth by punishment—the system which its enemies call religious persecution—has been to a great extent successful, cannot be disputed. It is impossible to doubt that, in the sixteenth and seventeenth centuries, the protestant or reformed faith was greatly checked by the temporal power of the Catholic governments. It was checked in two ways,—by preventing its entrance into a country (as in Italy and Spain), and by expelling it from countries in which it had taken root (as in Southern Germany, France, and Flanders). The transportation of the Moriscoes from Spain, the expulsion of the Jews from several countries, and the destruction of the Christians in Japan, afford other examples of the success of forcible measures for the extirpation of a creed which the government deemed erroneous.'*

He decides, however, for the following reasons, against the expediency of persecution. First, because religious error cannot be suppressed by severity, since what one nation regards as error another regards as truth. Secondly, because even those who do not share the opinions of a martyr, respect his sincerity; because 'there is a sympathy with his sufferings and a consciousness 'that the State, instead of gaining his conviction by the legitimate 'weapons of persuasion and reason, has, being the stronger, used 'its strength for causing its own opinion to prevail.'

'Hence,' he adds, 'the use of force to diffuse religious opinions, by admitting the failures of reason in the individual case, has seemed to raise a presumption that reason was on the weaker side. True opinions in religion can, in the long run, only be propagated by reason, and that voluntary deference to authority which implies reason; but false opinions in religion can be as well propagated by force as true ones. The sword, the stake, or the gibbet, are as good arguments in behalf of Mahometanism as of Christianity. In this way, the use of the civil power to repress religious error, has been

* P. 292.

accounted almost as an admission that the other side were in the right; martyrdom has been regarded as a sign of truth, as well as of sincerity; and the infant church has been said to have been watered by the blood of its martyrs. Both the reason and feelings of mankind are outraged, by applying to the diffusion of truth means which are used reluctantly and sparingly even for the punishment of overt acts against society.'*

We confess that this reasoning does not appear to us conclusive. It is true that no common effort will ever be made by the European Governments to put down or set up any one form of Christianity, and consequently that religious error cannot be driven out of Europe. But if it be admitted that it is in the power of persecution to introduce and to extirpate peculiar doctrines in a given country, the impossibility of doing this universally is not an argument against doing it partially. If precautions against cholera are found to be effectual, the refusal of our neighbours to take them is no reason for refusing to take them ourselves. Nor is the sympathy of the public for religious offenders a ground for leaving them unpunished. The public often sympathises with political offenders,—yet we punish rebels and traitors. Nine tenths of the people of Ireland sympathise with Smith O'Brien and Meagher,—but we do not recall them from transportation. Nor is it true that 'only true 'opinions in religion can in the long run be propagated by reason, 'and by that voluntary deference to authority which implies 'reason.' Archbishop Whately has shown that most of what we call the errors of Romanism, are opinions natural to the human mind; and we know that many of them grew up and established themselves by means of reason, or of what was called reason, and of authority, long before the State interfered to propagate or to protect them. The fact seems to be that religious truth, and religious error, can both be propagated by argument and authority, and can both be suppressed by persecution and force.

If, then, religious truth be favourable, and religious error unfavourable to the welfare of a people,—if it be in the power of the State, by means of persecution, to diffuse the former, and to extirpate, or at least to discourage the latter,—and if it be the duty of the State to do all that it can do to promote the welfare of its subjects, on what grounds ought it to abstain from persecution?

The able author of the 'Letters on the Church' admits, that he can find no arguments against persecution which ought to convince a Mahometan or a Pagan ruler. 'But,' he adds,

* P. 295.

'those who profess the Christian religion, and seek to supp o
'their faith by the secular arm, I would rebuke in the words
'their Master, saying, "Ye know not what manner of spirit y
'"are of;" I would urge that Christ himself has expressly re-
'nounced all secular authority, and *forbidden* all coercion in the
'cause of his religion, both by his declaration that his "king-
'"dom is not of this world," (which would manifestly be false,
'if he authorised the employment of force in his cause,) and by
'the whole tenour of the religion he founded, by every thing
'said or done by himself and his apostles, that could in the
'most decided manner confirm and illustrate that declaration.
'And I would point out that the passages of the Old Testa-
'ment, which have been erroneously adduced in opposition to
'this doctrine, afford, in truth, a strong confirmation of it, by
'the relation they manifestly bear to a totally different system;
'to a kingdom which *was* of this world, having Jehovah for its
'supreme Magistrate, administering his government by temporal
'sanctions. And I would conclude, without fear of refutation,
'that he who calls in the civil sword to the aid of Christianity,
'is dishonouring and betraying, instead of serving the cause of
'a *suffering* Messiah, who, when those his sufferings were depre-
'cated by his zealous but erring disciple, solemnly reproved his
'mistake, saying, "Thou savourest not of the things that be of
'"God, but *those that be of men;*" and who commanded that
'same disciple to "put up his sword into its sheath."'*

This argument, however, affects only those Christians who believe that the spirit of Christianity is opposed to religious persecution. And they are, as we have already stated, a small and a recent minority. We believe that the duty of abstaining from the forcible propagation of religious truth may be maintained by an argument of universal application,—one to which a Mahometan or a Pagan must yield, as well as a Roman Catholic or a Protestant. It consists in the impossibility, in almost all cases, in demonstrating that what is persecuted is really error. We have already remarked that most of the disputes which separate Christian sects relate, not to practical morality, but either to questions respecting Church discipline and government, which may receive different answers among different nations and at different times; or to questions as to the nature and attributes of the Deity, and as to his dealings with mankind, which depend on the interpretation given to certain portions of Scripture as to which men have been differing for eighteen centuries, with a tendency rather to further divergence than to agreement.

* Letters on the Church by an Episcopalian, p. 31.

The Trinitarians think that the eternal co-existence of God the Father and God the Son is the scriptural doctrine. The Arians think that the Begetter must have existed before the Begotten. The Latin Church believes that the Holy Spirit proceeds from the Father and the Son. The Greek Church believes that the Holy Spirit proceeds only from the Father. Each of these opinions has been supported by hundreds of learned, conscientious, and diligent inquirers. Each has been adopted by millions of enthusiastic votaries; each has been propagated by violence, and resisted by endurance; each has had its doctors, its persecutors, and its martyrs.

Among the errors which Protestants impute to Roman Catholics there is one which appears capable of demonstration; for it seems to involve a logical absurdity — the notion that a thing can retain all its attributes and yet be changed in substance. Yet this apparent absurdity is sanctioned by an enormous preponderance of authority. For centuries it was undisputed. Even since it has been called in question, more than three fourths of the Christian world adhere to it.

It is possible that many of the opinions for which we persecute one another relate to matters which our faculties are unable to comprehend. It is possible that if our controversies could be submitted to the decision of beings of higher knowledge and intelligence than those of man, they would tell us that for the most part we are disputing about words which signify no realities, and debating propositions which, being unmeaning, possess neither truth nor falsehood. One thing at least seems clear — that if the Being, who inspired the texts on which different sects found their arguments, had intended us to agree in one interpretation of them, he would not have left them susceptible of many.

The fact, then, on which the expediency of persecution depends — the falsehood of the persecuted doctrine, — being in general incapable of demonstration, it follows, as a general rule, that persecution is not expedient. We say in general, for there are some religious opinions so obviously mischievous, that the magistrate may be bound to put them down. Such are the doctrines once attributed to the church of Rome, that faith is not to be kept with heretics, that the Pope may release subjects from their allegiance, and that indulgences may be purchased for the darkest crimes. And with respect even to such doctrines as these, all that the State ought to prevent is their active dissemination. The mere holding them, being involuntary, is not a fit subject for legislation.

The argument against persecution, of which we have just given an outline, is, however, seldom employed. It may be

worth our while to inquire why this is so: why, among the thousands who have argued against persecution, scarcely any have made use of a train of reasoning which appears to us to be obvious and conclusive.

We believe that the explanation is to be found in the peculiar state of mind with which men approach religious questions.

On all other questions they are anxious, or, at least, profess to be anxious, to keep themselves in what may be called a state of intellectual candour. They affirm that they are open to argument, and that they wish to hear what is to be said on both sides.* Even in matters in which each step is a matter of certainty, they distrust their own judgment as soon as their conclusions are questioned by a competent authority. A man who has added up a column of figures, doubts the accuracy of the operation, if an accountant has examined it and tells him that he has committed an error.

On religious questions this state of mind is avoided by most men and disclaimed by all. On such subjects most men try to feel, and all profess to feel, perfect certainty. They do not pretend to be open to reason; they do not wish to hear what is to be said against their opinion; they are afraid of unsettling their faith. They are not startled when they are told that views different from their own are taken by men whose talents, integrity, and diligence render them competent judges. A Protestant cares nothing for the authority of Bossuet or Pascal, or a Tractarian for that of Whately or Hampden. Every man clings to his faith, as if it were unassailable, yet screens it from opposition as if the first hostile breath would overthrow it.

The source of these feelings is the opinion, — first held by the Jews, and adopted from them by both Christians and Mahometans, — that religious error not merely leads to sinful practice, but is in itself actually a sin: and it is remarkable that the errors which are generally supposed to be most sinful are not those which predispose to conduct hurtful to ourselves or to others, — such as the belief that the favour of God is to be obtained

* 'In entering upon any scientific pursuit, one of the student's 'first endeavours ought to be to strengthen himself by something of 'an effort and a resolve for the unprejudiced admission of any con-'clusion which shall appear to be supported by observation and argu-'ment, even if it should prove adverse to notions he may have pre-'viously formed or taken up on the credit of others. Such an effort 'is the first approach towards mental purity. It is the "euphrasy '"and rue" with which we must purge our sight before we can re-'ceive and contemplate as they are the lineaments of truth.' — *Sir John Herschel's 'Astronomy.'* Introduction.

by self-torment,—or by persecuting those whom we assume to be his enemies,—but mere speculative doctrines, which have no influence on human actions. The Athanasian Creed requires whosoever will be saved, not to love God and his neighbour, but 'to think rightly of the Trinity.' Men who believe, that all who do not keep holy and undefiled this very technical faith without doubt shall perish everlastingly, must tremble at every doubt that intrudes itself. Those whose confidence in their own opinions is perfect rejoice in the firmness of their belief; those who are assailed by doubts endeavour to suppress them, and to assume a conviction which they do not feel; and thus the members of every sect agree to treat as a matter of perfect certainty the points of its peculiar faith. Every writer and speaker, therefore, who has to consider the propriety of enforcing his faith by persecution, begins by affirming or implying,—if he be a Roman Catholic, that the Protestant doctrines,—if he be a Protestant, that the Roman Catholic doctrines, are certainly false: and he then finds it difficult to show why falsehood should not be suppressed.

The title of the tenth chapter—on the abuses of the principle of authority—is perhaps almost a misnomer, for the principal subject is not the abuse, but the use of authority. The abuses of authority, indeed, are obvious; and, up to a certain point, they have a tendency to increase as a nation advances in knowledge and civilisation. Among barbarians the subjects of thought are few: a savage takes his religion on trust, but almost all his other opinions are the result of his experience; and therefore, among savages, the oldest man is generally the wisest. In an advanced state of civilisation, the amount of knowledge may be said to be practically infinite; since it is far greater than could be acquired in the longest life, or received into the most capacious intellect. The mass of the people have not sufficient general knowledge, or sufficient leisure to enable them to test the truth of one thousandth part of the propositions which come before them every day; and they acquire the habit of torpidly acquiescing in what they hear or read, provided their informant be one whom they are accustomed to trust. Those who mix with the English labouring classes, particularly with those who are supposed to be the most intelligent,—the manufacturers,—are at first astonished by the slavishness with which they adopt the views and obey the orders of those to whom they look up as leaders. Whole bodies of workpeople abandon their employment,—expose themselves, their wives and children, to distress, hunger, and disease, which may never be shaken off,—combine to ruin the master who has been their benefactor for years,—insult,

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maltreat, and perhaps assassinate their own associates, who do not join in the strike,—and all this, at the dictation of persons whose names are often concealed from them; but whose anonymous orders carry the authority of the committee of the union. During the comparatively tranquil intervals between strike and strike they suffer from their self-constituted rulers an amount of interference, of taxation, and of capricious oppression which would produce a rebellion in Russia or Turkey. Under the influence of this despotism they have seen the manufactures of great towns, as in the case of Dublin, indeed of great countries, as in the case of Ireland, gradually perish or withdraw. The reasonings which are addressed to them by their superiors, the calamities which they witness among their equals, even those which they have endured and are enduring themselves, have no weight when opposed by the authority of their own delegates and committeemen.

We will pass to a still more striking example. The wretchedness of Ireland is generally attributed to the misgovernment of England; and this is certainly the ultimate, but not the immediate cause. From the Union,—that is to say, during all the time that is recollected by the present generation,—Ireland has enjoyed a pure administration of justice, local self-government, free institutions, and the lightest taxation in Europe. England has wasted and is wasting her treasures in her defence, in the support and education of her people, and in unrepaid loans for her improvement. She has been the spoilt child of the empire. But the insolent injustice with which we have treated, and continue to treat her religion, has led the bulk of the people to withdraw their confidence from the Government, and from all connected with the Government, and to trust blindly to their own priests and demagogues. Under such influence they have been engaged in a chronic conspiracy against the law and its administrators. Neither persons nor property have been safe. Agrarian outrage has rendered agricultural improvement impossible; the atrocities committed by the trades-unions have driven away manufactures; capital, credit, and commerce have disappeared. The landlord has emigrated and been replaced by the agent; the manufacturer has established himself in a safer country; the merchant has followed his customers. Blindly obeying the orders of those whom they have put in authority over them, this unhappy people has wasted in agitation and outrage the energy which might have made Clare and Tipperary as prosperous as Down or Antrim. When we see such consequences flow from obedience to ill-chosen guides in our own islands,—when we see the misery which within the last two years the people of Italy,

Germany, and France have been induced by a few thousand ruffians and fanatics to inflict and to suffer, — we are inclined to prefer the ignorance of the self-relying Arab, to the slavish subservience with which the mass of the population of some of the most civilised portions of Europe submit to the authority of their leaders.

At the same time we agree with Mr. Lewis, that one of the main instruments of civilisation is well-placed confidence. We agree also in the opinions contained in the striking passage with which he concludes his essay.

'Well-placed confidence, in questions of opinion and conduct, is what sound credit is in mercantile affairs. Credit does not create wealth, neither does confidence create rectitude of judgment. The material commodity, and the mental capacity, must both pre-exist; but, in each case, the confidence turns it to the best account, and converts to a useful purpose that which might otherwise be locked up unproductively in the coffers or in the breast of its possessor.

'In the present state of the civilised world the progress of society will depend in part upon legislative improvement, and upon those measures which a government can command or influence; but it will depend still more upon the substitution of competent for incompetent guides of public opinion; upon the continued extension of their influence; and upon the consequent organisation of a sound authority in all the departments of theory and practice. Under the operation of these influences, it will be found that the increased mental activity which accompanies progressive civilisation is not inconsistent with social tranquillity; that the extension of knowledge among the people does not promote anarchical doctrines; and that the principle of moral authority is too strong for the principle of political revolution.'*

We are ready, too, to admit that the solitary meditations of the uneducated seldom lead them to correct conclusions. The religious opinions which they frame for themselves are generally gloomily superstitious; the political ones are warped by the plausible error that poverty is caused by the unequal distribution of wealth, and might be removed by a more equitable arrangement; and their moral notions are usually hasty generalisations from a very limited experience. And if this be so, it follows that the first step towards improvement depends upon the selection of trustworthy guides. But, as respects the mass of mankind, we see no approach towards such a selection. As long as they are ready to worship a Thoms, an O'Connell, or a Barbès — until an education very different in kind as well as in amount has brought them to select their idols better, — we can scarcely wish them to repose their confidence more readily. Mr. Lewis's comparison of moral confidence to commercial

* P. 61.

credit is a happy illustration. Each contributes materially to the improvement of mankind; each, indeed, is essential to any considerable advance of civilisation; but ill-placed confidence and ill-placed credit are at least as mischievous as well-placed credit and confidence are beneficial.

We cannot take leave of this collection of suggestive remarks and acute inferences which has engaged us so long without frankly admitting the meagre inadequacy of the representation which we have given of it. Mr. Lewis has treated or alluded to so many subjects, he has opened so many views, often into unexplored regions, that we have been forced to select for comment only a very small portion of them. He will be studied, however, far more in his own pages than in ours; and if we have had any readers to whom his work was unknown, we have extracted from it enough to lead them to the original.

ART. IX.—1. *Debate on the Address.* 1850.

2. *Speeches at Protection Meetings.* 1849–50.

3. *Address of the National Association for the Protection of Industry.* 1850.

4. *Board of Trade Returns for the Year* 1849.

THERE is no reason either for being, or affecting to be, surprised at the agriculturists—or, perhaps we should rather say, those noisy politicians who usurp the name of a very tranquil class of men—having closed their account with the past twelve months in a storm of angry discontent. 'Agricultural distress' is no new thing; and, at the present moment, there probably is considerable actual suffering,—as we dare say, also was the case at all the other periods when similar cries were raised. It is far from our thoughts to deal lightly or tauntingly with complaints coming from a body of the community possessing such strong and ancient claims to general respect and kindly feeling. On the contrary, we propose, in a spirit of friendship and scrupulous fairness, to inquire how far the sufferings complained of may be temporary in their causes, as well as exaggerated in their statement; using, for the investigation, not general principles and broad conclusions—on which we might most fairly take our stand as on an invincible position—but only some palpable and homely facts belonging to the present time and circumstances: such as, if not beyond denial, are at least within the reach of simple and accessible tests. First, however, we would, by a very condensed compendium of the *history* of agricultural complaints, guard

against the assumption, that complaints like the present are anything new among the complaining class; or that they necessarily, or even presumptively, arise from anything new in legislation. For surely it is a most suggestive fact that, whatever may be at present the actual suffering of the agriculturist, his complaints, with but few and short intervals, were as bitter under the system which has ended, as they are under that which has begun.

In March, 1815,—the avenues to the Houses of Parliament at the time being filled with military and police,—it was enacted that no wheat should be imported into Britain till the average price of the kingdom was above 80*s.* per quarter. Several such proposals as one by the late Lord Ashburton, to fix 76*s.* instead of 80*s.* for the minimum, were rejected by overwhelming majorities. They were treated as mere panderings to public clamour, a betrayal of the agricultural interest, and an act of contempt towards a committee of the previous session, which (guided by the evidence of a number of leading agriculturists) had affirmed that wheat could not possibly be grown in this country at any price below 80*s.*, or rather 82*s.* 6*d.* In the following December the monthly average was 55*s.* 9*d.*, or 30 per cent. below the minimum decreed by the legislature in March! As soon as the preliminaries of the next session were hurried over, Mr. Western, member for Essex, 'rose to bring 'under notice the distressed state of the agriculture of the 'United Kingdom.' He began:—'Between two and three 'years ago agriculture was in a prosperous and flourishing state, 'and yet within the short period which has since elapsed, 'thousands have been already ruined, and destruction seems to 'impend over all those whose capital is engaged in the cultiva-'tion of the soil!' He moved resolutions declaring that all connected with agriculture 'are at present suffering under un-'exampled distress;' a proposition which was unanimously adopted by the House. This was in March, 1816, when wheat was 54*s.* 6*d.*; in May, though not in virtue of the parliamentary resolution, it was up again at 74*s.* 6*d.* Incendiary fires and similar outrages broke forth, soon afterwards, throughout the chief agricultural districts. In the Isle of Ely alone four agricultural labourers were hanged on one gallows, and several others shot, for participation in one of these riots; 'a reduction 'in the price of bread and meat,' says an impartial contemporary chronicler, 'was the avowed object of the rioters, and their 'flags were inscribed with "Bread or Blood."' By the end of 1816 the average price was 103*s.*, and the annual average for the *next* year was 94*s.* 4½*d.*; so that the landlords in the legis-

lature did not complain, although distress petitions came in, in large numbers, from farmers and labourers: and the period was one of almost unparalleled suffering to the community at large, and of anxiety to their rulers. In 1818, with an average of 84*s.* 2*d.*, and in 1819 with an average of 72*s.* 2*d.*,— with the Habeas Corpus Act suspended, and with the Six Acts, Special Commissions, and the hangman, in active operation throughout the country, — there were frequent complaints from farmers and labourers, but no organised efforts to obtain 'relief.' In 1820, the annual average being 67*s.* 10*d.*, Parliament was inundated with agricultural petitions praying for 'a higher protective duty,' and averring that foreign corn was 'smuggled' out of the bonding warehouses. The appointment of a Select Committee to consider these petitions was carried even against the wishes of the ministry; but the Committee, after sitting a couple of months, reported that they could detect nothing and devise nothing.

And here, having completed the first six years' history of the Corn-law, let us in a single sentence sum up its dismal and instructive testimony. All importation was prohibited, till wheat had risen above 80*s.*; and, though prices fluctuated violently between 53*s.* and 112*s.*, the average for the six years was 78*s.* 3*d.*, or more than double the natural price, that is, the world's-market price, for the period in question. For four years out of the six, we did not (deducting re-exports) import a single quarter of foreign grain; and at the end of the sixth year, when agricultural murmurs were louder than ever, and louder than *now*, there had been no imports for two years, nor was a single quarter of foreign grain lying in bond. The country, meanwhile, was more than once on the very brink of famine and rebellion.

In 1821 (wheat at 56*s.*) 'agricultural distress petitions' again poured in; and a motion in the Commons for the appointment of another Committee, 'to take into consideration the petitions 'relative to the distress of the agricultural interests,' was again carried. But here the landlords were taken in their own devices. The Committee presented a very elaborate report, declaring that, as the ports had been absolutely and continuously shut against foreign grain for thirty months, the agricultural distress could not have arisen from importation; that the remedies asked for by the petitioners were 'founded on delusion, and 'likely to lead to disappointment,'— since 'Protection cannot be 'carried farther than monopoly;' and that the Committee would rather suggest a relaxation, in the shape of a fixed duty not prohibitory. The year 1822 (wheat 44*s.* 7*d.* — only 5*d.* higher

under *prohibition* than it was last year under open ports!) began with agricultural railing more extravagant than ever; the country gentlemen at the county meetings insisting on ascribing the low price to 'foreign importations,'—although not a single quarter of foreign grain had come in for more than three years,—and desperately talking about such remedies as National Bankruptcy and Parliamentary Reform. *Another* Committee was appointed: but it separated, unable to do more than discourse vaguely about a 'sliding-scale,'—an ingenious artifice, which the complainers scouted as not being likely to keep out foreign grain more effectually than the prohibition under 80*s.*, of which they were already in the enjoyment or endurance. During the session *six* different proposals for amending the Corn-law, besides one, emanating from the country party, for defrauding the national creditor, were discussed and declined by the House of Commons. The circumstances of 1823 were very similar; the time of Parliament being mainly occupied with (to use the phrase we find dancing through all the debates of that period) 'the great question of agricultural depression.' In 1824 and 1825 agricultural lamentations, though not ceasing, were comparatively mild and cautious,—apparently not because the malcontents were less dissatisfied, but because they were more afraid.

We are now at the close of the eleventh year of Protection, or, rather, Prohibition; and what do we find? We find that, with high prices, low prices, and medium prices, the grievances of the agriculturists continued invariably the same; and that with the whole legislative power in their own hands, they never discovered a legislative remedy.

With 1826 the new period may be reckoned to have set in. Owing to the growing strength of the trading and manufacturing classes, and in some degree also to the increased intelligence and repeated experience of the agriculturists themselves, the Protectionists began to stand on the defensive rather than on the aggressive; and they seem prudently to have set about considering what might be done by concessions rather than by attempting new exactions. Nevertheless, through all changes of laws and prices, the croak from the left was as melancholy and ominous as ever. They complained up till 1828, when the sliding-scale was enacted: and they went on complaining after it. In 1833 the Marquis of Chandos exhausted his eloquence in deploring their sufferings, and a Committee, presided over by Sir James Graham, again described their condition as dismal and helpless in the extreme; in 1834 (wheat down at 46*s.*) the topic was again copiously expatiated upon; in 1835 (no imports, but yet wheat 39*s.* 4*d.* on the annual ave-

rage, and 35*s.* 4*d.* in December!) petitions once more crowded in, and Lord Chandos renewed his distress motions; in 1836 *another* Committee of Inquiry was appointed, with, of course, the same melancholy evidence as before (relieved, however, by more cheerful statements from the Scotch farmers), and the same utter absence of any parliamentary panacea. From the last-named year to 1841 the agriculturists kept their troubles comparatively in the back-ground;—it seems to have been suspected that it might be impolitic to parade their weakness in the face of a growing and advancing enemy. They thought they did enough—they now think they did too much—when in 1841 they rejected proudly and revengefully the proposal by the Melbourne Ministry of an 8*s.* fixed duty. In 1842 came Sir Robert Peel's modification of the sliding-scale, and the Cattle and Provision Tariff. The New Corn-law speedily furnished a fresh instance of the futility of all such laws. Sir Robert Peel, while repudiating generally the idea that legislation can ensure a certain price, stated the *probable* price under his scale at 56*s.*; and, during the three years for which the scale lasted, it stood respectively, 50*s.* 1*d.*, 51*s.* 3*d.*, 50*s.* 10*d.* In 1846 came the end, or, at least, the beginning of the end. After an interval, consisting of the close of 1847 and the commencement of 1848, a period marked by the absence of even the 1*s.* duty,—the cry of agricultural distress again resounded throughout the land and legislature; though not more loudly, nor, as we believe, more reasonably, than it was wont to do in the palmy days of Protection and Prohibition.

Is there any parallel to this strange narrative in the case of any trade, save Agriculture? and of any system, save Protection? It is not easy to conceive that any sober agriculturist can read it,—much less the whole history of which we have given but a crushed and imperfect epitome,—without feeling something, not only of shame, but something also of a serious call upon him for reflection and reconsideration. For three years preceding 1846, the agriculturists had a sliding-scale, devised by their own friends—and then they were distressed; for fifteen years preceding 1842, they had a more rigid sliding-scale, also of their own devising—and then they were even more distressed; while, for the twelve years preceding 1827, under a virtual prohibition and no imports, they had been the most distressed of all. We tell the tale simply as they themselves have told it to us, in Parliamentary debates and public documents; and we believe that, to some extent and as regards the tenantry and labourers, the tale may be a true one. Many, perhaps, will at once conclude from such a narrative, that the agriculturists have cried 'Wolf' much too often to be entitled to attention now. But all the use we seek

to make of it is, that it at least establishes such a case of suspicion, that we may demand a patient hearing for a few simple facts and suggestions from an opposite point of view,—assuming indeed, for the moment, that the agriculturists never cry but when they are hurt. To our mind what we are about to state fully warrants the belief that—as, in times past, the possession of Protection was certainly never found a preventive of agricultural distress—the want of Protection may possibly not be the real cause of that distress at present.

There is a strong resemblance between the circumstances which immediately followed the imposition of Protection in 1815, and those which have immediately followed its removal in 1846,—so strong that it is well worth the consideration of all persons, who insist on ascribing every variation in the price of food to legislative enactments. In the spring of 1815, when Mr. Robinson passed his bill, prohibiting importation till the price was above 80*s.*, the price stood at 72*s.* The body of consumers were in alarm lest they might be unable to purchase food: but in December, the price was down to 55*s.*! It was now the turn for terrified agriculturists to proclaim that they were ruined;—yet, in another twelvemonth prices ran up to above 100*s.* In the winter of 1845, when Sir Robert Peel resolved to abolish the Corn-law, a famine was apprehended: but by the time his bill passed, in 1846, the price was 50*s.* The agriculturists again cried ruin, and in six months wheat again rose above 100*s.* In the London Corn Exchange, on the 17th May, 1847, new Essex and Kent wheat actually brought 114*s.*,—a height, indeed, which it had scarcely reached for thirty years preceding. At the present moment it is below 40*s.*, which is certainly very low;—though not so low as the existing generation have twice seen it. Thus we see that, within the range of a few months in each case, Prohibition did not prevent wheat falling to 50*s.* nor Free-trade its rising to 114*s.*

Coming with the lights of such a history as the above to the inquiry,—what will be the probable effect of Free-trade on agricultural prices?—we perceive at the outset that we might, so far as the Free-trade era has yet run, dispense with the instruction they supply. Free-trade began, not with 1849, but with 1847; the months of that and the following year, during which Sir Robert Peel's vanishing scale of 1846 was in operation, being counterbalanced by those during which the 1*s.* duty, and even the Navigation-laws, were suspended. Leaving out of the calculation the year 1846, which was partly under the old and partly under the new system, the average of the first three years of Free-trade, (1847-8-9,) was 54*s.* 10*d.*, while that of the last

three years of Protection, (1843–4–5,) was only 50*s.* 8¾*d.* It is not reasonable that the agriculturists should look only at the fact, that under Free-trade they got no more than 44*s.* 2*d.* in 1849, and should insist on forgetting that under the same system they got as much as 69*s.* 9*d.* in 1847. But, for argument's sake, we consent to take the case as they present it, and to deal with the low prices of 1849, although it would be just as fair to take Protection prices as represented by those of 1822 and 1835,—years in which prices, without any imports at all, went down even lower than they have done of late, notwithstanding that our late imports have been, as we shall try to show, unnaturally and accidentally large.

Our first reason for believing that agriculturists need not be cast down by last year's prices, is that, as regards the amount of home as well as of foreign supply, the circumstances have been special and extraordinary; perhaps not at all more likely to recur than the opposite circumstances of 1847.

The very great extent to which an increase of home production, either by a plentiful harvest or an increase of tillage, affects the market, is a point on which agriculturists, or at least agricultural alarmists, have, from the beginning of time to the present, remained singularly blind and unbelieving. They can conceive of no cause for reduced prices, save 'the foreigner.' It is plain, however, that the great and, on the whole, gradual fall of prices between 1815 and 1825 could only have arisen from the extension of tillage and acreable produce. For importation, even under famine prices, was prohibited, and our actual imports, during the whole twenty years, were not a third of what took place last year alone. Yet, with these facts before them, and with this additional fact tolerably well established—that tillage, including in the phrase both reclaimed land and the increase of produce per acre, had during the period in question increased somewhere about 40 per cent.,—everything was ascribed by the complainers of twenty and thirty years ago to the importation which demonstrably and notoriously did not exist, and nothing to the causes which did exist, and which were the work of their own hands. It is not, therefore, to be wondered at that, with such importations as those of last year, they should be able to look at nothing else. Although we have never seen any weight conceded to the fact by our present complainers, yet neither have we seen them ever venture to deny, that the harvest of 1849, especially the wheat harvest, was an abundant one, and considerably above the average. The proportion in which it exceeded an average, and even the preliminary question what *is* an average, are points which, to the discredit of all engaged in the trade of agriculture, there

are no available means of ascertaining. The Manchester manufacturer will at any time make a pretty close approximation to the produce of the coming crop of cotton in Georgia, as well as to its produce in past seasons; but the British agriculturist has no data whatever for estimating the produce of his own native soil for any one year, nor hitherto has he much troubled himself even to guess. We shall not, therefore, attempt to speculate on the proportion which last year's crop bore to an average one. But, contenting ourselves with the admitted fact that there was *an* increase, would beg due attention to the truth,—that what, stated proportionally, seems a small increase, may both greatly lower the market, and yet compensate the grower, or nearly so,—in short, that an increase of produce which seems very small, may counterbalance a decrease of price which seems very great. An increase such as that of which we are speaking, whether a twelfth or a fourth, arising from the fertility of a favourable season, falls to be calculated, not on what is, in an ordinary year, the *marketable* produce, but on the ordinary *gross* produce, which is at least one fourth more,—the quantity set aside for horses, servants, seed, &c. in the process of production being no greater than if the produce had been only an average one or below it. Keeping this in view, it will be found by any one who makes the calculation on the proper data within his reach, that if last year's 'yield' were taken as a fifth—or even a sixth—above the average, the producers would have, from the crop and the prices of 1849, as much money as they got from the average crops and the prices of the last years of Protection. We are not entitled to insist that a fifth or sixth was the actual surplus above an average; but,—it being admitted that there was some increase, and it being undeniable that any increase operates in the mode we have indicated,—we are warranted in asserting that the fact ought not, as hitherto, to be kept entirely out of sight and consideration.*

Another quality of the harvest of 1849 has had an unprecedently great, though it was not an unavoidable, effect in depressing prices. The grain, and especially the wheat, was got in in damp condition, not permanently damaged, but greatly deteriorated as regards *immediate* use. The condition of last

* In addition to the increase arising from a favourable season, it should likewise be taken into account that there is reason to believe that, under the stimulus of the higher prices of 1847, there was prepared and seeded in 1848 for the crop of 1849 a greater than ordinary breadth of wheat. Every year our improvements in cultivation, especially our extended draining, must be telling more and more.

year's wheat, at least till within six weeks of the issue of this number of the Review, has, even in some of the best wheat districts of the country, been such that only one third of it was fit to be used in the manufacture of good bread—a proportion almost unprecedentedly low. The effect of this temporary postponement of demand for new wheat has been greater than any person not having special knowledge of the particulars would imagine; but some evidence of it may be seen in the fact that for several months (say from November to February inclusive) the price of the best *new* wheat has been 6*s.* or 8*s.* a quarter below good old or foreign. If the farmers had held back the bulk of their produce till the present time, when it is coming into as good condition as that which has been fetching an additional 6*s.* or 8*s.* (or, allowing for the greater bulkiness of the damp article, say 4*s.* or 5*s.*), their year's profits would have been so much higher, or, if they choose, their year's loss so much less. But, as the market returns and the state of the stocks on hand show, they have been selling with even more than ordinary haste. And why? Probably, at least, for one reason,—because the capital of so many of them is too small for their operations. This is a case, in which a deficiency of capital subjects the party to a double disadvantage. The lower the market, so much the more certainly is he forced into it, as a seller; and the more numerous the sellers, the lower still will the market be depressed. But another, and probably even a more powerful cause of the glutting of the market, and consequent depression of prices, has been the *panic*,—a panic born of folly and of faction. The immediate propagators of it are fairly chargeable with the consequences. The farmers who were persuaded by their 'friends' to sell in January an article, which might have brought 15 per cent. more if kept till April, have only their 'friends' to blame.

The fact of the existence, and the extent of the effects, of the Corn Panic of 1849 admit of being indirectly illustrated and estimated by the facts connected with the Cattle Panic of 1842. In 1842, Sir Robert Peel's first tariff reform admitted, though at still heavy duties, Live Animals and articles of Provision; which before were, some literally and others virtually, prohibited. Instantly cries of rage and ruin were raised, and prices fell heavily;—the farmers bitterly expressing the latter fact by the phrase, 'Peel's in the market.' We have no more accurate mode of showing the fall of price at this time than by taking the medium price of butcher's meat in Smithfield market, before and during the panic; though this does not sufficiently represent the fall, the price of butcher's meat never following closely, nor to the full extent, the fall in the price of the live animal,

especially when that fall is occasioned by some such cause only, as a panic. In the year preceding 1842, the medium price of beef at Smithfield was 4*s*. 0¼*d*. per stone of 8lbs.; in the three years following the change, it was respectively, 3*s*. 4¼*d*., 3*s*. 1½*d*., 3*s*. 0¾*d*. That of mutton, the year preceding, was 4*s*. 5¾*d*.; the three years following, 3*s*. 8*d*., 3*s*. 8¼*d*., 3*s*. 3¾*d*. That of pork, the year preceding, was 4*s*. 10½*d*.; the three years following, 3*s*. 8½*d*., 3*s*. 6¼*d*., 3*s*. 7½*d*. In the gross, there was a fall of about 20 per cent. That this was the effect of panic — co-operating, however, with some distress among the consumers — and had no real connexion with importation, is clear from the fact, that the quantity of provisions imported during the period was inconsiderable, and the number of live animals brought over really not worth reckoning. Even those few came over, for the most part, mere skin and bone, and their flesh had to be put on them here by British food and for British profit. We maintain that the Corn Panic of last year differs from the Cattle Panic of 1842 in little but this; — that owing to the natural difference in the subjects and the circumstances, it has operated still more injuriously to the interests of the panic-stricken. The cattle panic only threw the home-reared cattle on the market, under circumstances and at times which depreciated their saleable value; for their foreign rivals were not in the country nor in existence. But when the Corn Panic came, the warehouses (for causes we shall presently touch on), were filled with grain belonging to capitalists, and waiting for a high or remunerative market. The panic among the home-growers went lengths which baffled all previous calculation. It knocked down the market week after week and month after month, till there seemed neither stop to it nor bottom: nor did it stop till, partly through the infection of alarm, partly from the inability of many to hold out longer, it had brought down the reserved stocks also, like an avalanche, on the market. Here, then, in part at least, and taken along with the extent both of the panic and of the increase of our produce of home-growth, we have an explanation of the phenomenon that, for some time, foreign grain sold in Britain cheaper than in the countries from which it came.

We are now brought to the question — what have been the causes, the amount, and the effect of the imports of last year? It is demonstrable that the circumstances of 1849 were still more exceptional with regard to importation than with regard to home production; but we must pass rapidly over this part of the subject. The scarcity of 1847, which occasioned not only England, but France, Belgium, and other countries, to appear

as purchasers at enormous prices over all the world, undoubtedly gave a great stimulus to production in the exporting regions the following year. At the same time revolutions, and rumours of revolutions, overspread these regions, causing decrease of home consumption and insecurity of property; and drove the growers or holders of corn to England, as almost the only country where industry and order seemed likely to be preserved, —and where, also, by a chance coincidence, the always exaggerated allurement of a new and wealthy market was now opened to them. It will surely be admitted that these circumstances are exceptional; — that it is not often we have a year of such severe and general scarcity as 1847, nor one of so many revolutions as 1848. Concurring with, or following upon all this, we had in 1848, and again in 1849, unusually abundant harvests, and, consequently, low prices, both in France and Belgium; enabling these countries, which usually import, to become exporters. In France, for three years preceding 1848, the price of wheat was as high as during the same period in our own country; for ten years preceding, the average was 51*s.* 2*d.*; but, last year, it fell to 33*s.* 8*d.* France thus became, for the year, what she was not before, and what, as the facts we have just stated prove, she cannot ordinarily, or almost ever become — an exporting country: so much so, that she actually sent us the *largest* quantity of grain. Belgium, still more strictly an importing country, also sent us a large quantity. It appears indeed that nearly one-third of the whole of our last year's import of wheat came from these two countries, — countries, from which we cannot ordinarily obtain any supply whatever.* We submit, that these are facts which alarmists should not persist in obstinately ignoring, and from which agriculturists only seeking the truth may derive courage and consolation.

As regards our imports from those countries which ordinarily do afford a surplus, it is easy to prove that, at recent prices, they have not paid, and therefore cannot be continued. The general fact that, during 1848, as well as 1849, importation from the ordinary continental grain ports has been a losing speculation, is notorious; but, preferring particular facts and instances, we shall

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* Belgium may, irrespective of her own harvests, become *now* an exporting instead of an occasionally importing country: for, the railway communication, which is completed to her frontiers, especially that to the Rhine at Cologne, must divert from Rotterdam part of the supplies formerly sent there for export. This, however, will not be a new source of supply, but only the substitution of a new outlet for the produce of the Upper Rhine.

show, by authenticated and unquestionable figures, the condition of the foreign grain trade as it stood in the beginning of March, and pretty nearly as it has stood since harvest, in the chief grain port (except London) on the east coast. The following statement, which has been minutely tested, needs no explanation. Mr. Wilson and Mr. Sandars may compare it with their conflicting returns.

Dantzig, 10th February, 1850:—

High mixed wheat 60 @ 62 lbs. per bushel f.o.b. - 37*s.* @ 40*s.* p. qr.

Average weight 60 lbs.		average price	38*s.* 6*d.*
Charges:—			
Freight - - - -		3*s.* 6*d.*	
Insurance at 3 guineas premium -		1*s.* 2*d.*	
Sound dues - -		0*s.* 5*d.*	
Bank charges for paying in London		0*s.* 3*d.*	
Loss on measure, and shore dues -		0*s.* 6*d.*	
Making up weight to 62 lbs. (the usual selling weight in Leith for *white* wheat), from 61 lbs. the natural average weight, say 1 lb. per bushel - - -		0*s.* 9*d.*	
Duty - - - -		1*s.* 0*d.*	
Factor's commission - -		2*s.* 0*d.*	
			9*s.* 7*d.*
Nett cost *ex ship* in Leith - - -			47*s.* 1*d.*
Nett cost *ex warehouse*—add 1*s.* per quarter for warehousing and delivering day - -			48*s.* 1*d.*
Selling price at corresponding date in the British port - - - - -			46*s.* 0*d.*

Rostock, 9th February, 1850:—

Finest wheat 63 lbs per bushel f.o.b. - - 36*s.* @ 36*s.* 6*d.* p. qr.

Average price -			36*s.* 3*d.*
Charges as from Dantzig - -		9*s.* 7*d.*	
Less on freight, being 3*s.* instead of 3*s.* 6*d.* per quarter - -	6*d.*		
Also less making up weight, the natural weight being the selling weight in Leith, for red wheat 63 lbs.	9*d.*		
		1*s.* 3*d.*	
			8*s.* 4*d.*
Nett cost *ex ship* in Leith - - -			44*s.* 7*d.*

Nett cost *ex warehouse*—add as above 1*s.* per quarter - - - - -	45*s.* 7*d.*
Selling price at corresponding date in British port - - - - -	44*s.* 0*d.*

Lubeck, (Holstein) 15th February, 1850:—

Wheat of 61 lbs. per bushel f.o.b. - -	34*s.* @ 34*s.* 6*d.* p. qr.	
Average price -		34*s.* 3*d.*
Charges on the foregoing -	9*s.* 1*d.*	
Add 1 lb. for weight to be made up -	0*s.* 7*d.*	
		9*s.* 8*d.*
Nett cost *ex ship* in Leith - - -		43*s.* 11*d.*
Nett cost *ex warehouse*—add 1*s.* - -		44*s.* 11*d.*
Selling price at corresponding date in British port - - - - -		41*s.* 0*d.*

To the expenses of importation, as above stated, should be added about 9*d.* per quarter for sea risk not covered by the insurance, which is only effectual when the vessel is stranded or the loss total. To London the freights are higher than to the port we have selected; and to west-coast ports, of course, higher still. In round figures we may average the *certain* loss on each quarter of wheat imported during the winter and spring of 1849—1850 as 3*s.* 6*d.* or 4*s.*, in addition to all such risks as bad debts, &c. The bearing of these facts is obvious. Our agriculturists will surely believe that foreign corn will not be grown and imported at a loss. It is not improbable that foreign production will be checked by the exceptionally low prices and profits (or rather no profits) of 1849, in something like the same degree to which it had been stimulated by the exceptionally high prices and profits of 1847.

Having seen that 1849 was, as regards supply, and still more as regards prices, an exceptional year, we turn now to a more general view of the position and prospects of the British agriculturist. And first, we would call to mind a fact which in the midst of the late alarm and hubbub seems to have dropped, if it has not been carefully thrust, out of sight; namely, that *grain*, in which the British agriculturist is exposed to competition, is not his only product, but that *two-thirds of his whole produce*, consisting of roots, sheep, cattle, &c., *are not affected by Free-trade at all*,—except so far as that system tends to give them an increased demand and enhanced value.

In assigning either a positive or proportional amount to any agricultural product, or in trying to arrive at the total of all the products, we enter on unmapped ground—a fact of the lamentable truth of which we could not give better evidence, than by

merely mentioning that at a meeting of 'the London Farmers' 'Club,' a few weeks ago, it was gravely doubted and debated whether the annual average home produce of wheat was *seven* or *twenty-four* million quarters. We take for basis the calculations made by Mr. M'Culloch in 1844, which led him thus to state the annual value of the agricultural produce of the three kingdoms:—

From arable land - - -	£138,021,548
From pasture and 'uncultivated' land -	89,750,000
	£227,771,548

But this classification is not one exhibiting the facts wanted for the present inquiry, viz. that proportion of agricultural produce which is affected by foreign competition,—namely, the cereals: and that which is unaffected by it,—namely, animals and roots. Taking from the first of the two classes given by Mr. M'Culloch, the following items—Gardens, which do not form a part of 'the 'agricultural interest;' Turnips and Clover, in which there is not and cannot be any competition worth reckoning; Flax, in which there had been Free-trade ten years before the date of Mr. M'Culloch's estimate; and Potatoes, which are higher than under Protection (but on the Irish portion of which we put only *half* the value ascribed to it by Mr. M'Culloch in 1844);—and adding them to the articles contained in the second line of Mr. M'Culloch's classification, the result stands thus:—

Cattle, cattle-food, roots and other articles (as above) *not* exposed to foreign competition	£137,295,009
Cereal crops, exposed to competition -	90,476,539
	£227,771,548

The products, therefore, which are not exposed to competition are about 50 per cent. greater in value than those which are so exposed; and, as Mr. M'Culloch calculated wheat at 52*s.*, and other grains in proportion, while, at the time he wrote, most of the articles in the non-cereal class were *cheaper* than they are now; and also as the proportion of roots to cereals has greatly increased since 1844, both as regards the number of acres under crop and the produce per acre—we think that, making all allowances for roughness of estimates, we are within the mark in stating that two-thirds in value of the annual agricultural produce of Britain is of that class which, in the nature of things, Free-trade cannot injuriously affect.*

* A similar calculation in another form, and relating to England only, confirms the probability of these proportions. Taking the cereal

Experience has shown, to the satisfaction even of the panic-stricken of 1842, that at least in Live Animals the foreigner cannot successfully compete with us. In every kind of animal (except Lambs and Swine, the number of both of which is insignificant) there has been a gradual and steady decrease in the imports for several years. Last year's import was less than that of 1848, and that again less than the import of 1847. An attempt, however, has been made to supply the place of the Cattle Panic with a Provision Panic. We have been saved from the Live Animal, but only to be trodden down by the Dead. If agriculturists would in this case, too, only look at facts, instead of listening to their fears and fancies, they would soon be reassured. It is plain that in this country, where neither climate nor taste induces a demand for salted food, and where it is the custom for consumers to cure for themselves, the importation of cured provisions—of which all but a mere trifle of the importations consists, and must consist—is certain of finding an early and narrow limit. That limit seems to have been already reached; one or two of the articles of Provision show a decrease last year, none a considerable increase. But, moreover—and this perhaps is the main fact—the actual total quantity is not worth taking into account, in relation to the whole. The import for 1849 of the chief article, Beef, in all its forms, dead and alive, salt and fresh, stands thus:—

Oxen and cows - - - -	39,672
Beef, 149,917 cwt. which, at 6 cwt. of marketable meat per animal, gives of animals -	24,986
Total number of animals - -	64,658

The estimated annual consumption of beef in the kingdom is 2,000,000 animals, on which the number imported last year, as just given, is less than 3¼ per cent. In the item of Pigs, the imports, live and dead, are considerably above this proportion; but the item is comparatively a small one,—to say nothing of the fact, that the number of pigs imported from abroad have not nearly filled the gap caused by the falling off in their supply from Ireland. While in the case of the far larger items of Sheep, Lambs, and Calves (taking Live Animals, and Mutton, Lamb, and Veal together), the per-centage of imports on the entire

crops of England at 40,000,000 of quarters—the highest estimate,—30*s.* a quarter all round will give 60,000,000*l.* of value. Assuming other crops and animals to be worth 120,000,000*l.*, we have a gross produce of 180,000,000*l.* Now this is probably near the mark. For the ordinary supposition, which puts the rental of England at 45,000,000*l.*, and the rent at one-fourth of the gross produce, brings out a gross produce of precisely the same value.

consumption is very much lower than that which we have already mentioned in the great article of Beef. On the whole, the fact is beyond disproof, that the imports of foreign provisions in all shapes, are not above *three per cent. on the consumption;* a proportion so inconsiderable as fully to prove our position,—that, as regards all that class of articles, the British agriculturist is not exposed to competition at all.

But, if more proof is wanted on this important and neglected point, we have it in the history of the prices of the articles in question; which have stood as high under Free-trade as either under Prohibition, or under the duties of 1842. They have, in fact, been more steadily high, except during the panic caused by farmers' 'friends,' than the prices of any other product that can be named. The following figures show the medium price per stone of 8 lbs.,—that is, the price between the average 'top' price and the average lowest price—of meat in Smithfield, during the six years preceding and the six years following the change of 1842:—

	Beef.	Mutton.	Pork.		Beef.	Mutton.	Pork.
	s. d.	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*
1836	3 10¼	4 1¾	4 1½	1843	3 4¼	3 8	3 8½
1837	3 10¾	4 3	4 5	1844	3 1½	3 8½	3 6¼
1838	3 9¾	4 1½	4 7¼	1845	3 0¾	3 3¾	3 7½
1839	3 11¼	4 6¼	4 10	1846	3 4¼	4 2¾	4 3
1840	4 1	4 5¾	4 9¼	1847	3 11¼	4 1¼	3 3¼
1841	4 0¼	4 5¾	4 10½	1848	3 7¾	4 3¼	4 0½

It will be seen how prices fell from mere panic—for the importations were trifling and powerless—in the three years following 1842; and how, when the farmers had cooled down, prices sprang up in 1846 and the following years, towards their former levels; although in 1846, the entire duty,—the slight modification of which had been in 1842 considered certain ruin,—was knocked off at one stroke of Sir Robert's pen.

As regards Sheep (the annual value of which, including wool, is greater than that of Cattle) we happen to possess some perhaps still more reliable data than those which are furnished by the price of butchers' meat in London. There is an estate, almost wholly pastoral, in the South of Scotland,—the rents on which are regulated year by year according to the price of Sheep and Wool; and the prices on which have been ascertained to be a fair average of the three great sheep-rearing counties of Dumfries, Selkirk, and Roxburgh. With the explanation,—that for the first six years Wool was not averaged, and that the price of

Lambs is taken at the medium between the two qualities called 'tops' and 'seconds,' and that the breed is the Cheviot,—we give the following table, compiled from the books of the estate alluded to, as showing the price of Sheep in one of the principal districts, and, *proportionately* at least, for the whole country, during the last thirty-three years:—

	Wool p. st.	Lambs.	Dft. Ewes.		Wool p. st.	Lambs.	Dft. Ewes.
	s. d.	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*
1817	—	5 10	15 0	1834	38 0	10 6	21 6
1818	—	13 0	24 6	1835	30 0	8 8½	19 0
1819	—	11 4½	25 0	1836	33 6	8 7	16 6
1820	—	10 6	21 4	1837	23 0	9 8½	18 0
1821	—	5 10½	12 6	1838	32 0	9 1½	17 0
1822	—	5 10½	11 0	1839	30 0	7 10½	18 0
1823	21 0	6 1½	11 3	1840	22 6	8 6	18 6
1824	22 0	5 9	13 6	1841	25 0	9 8	20 0
1825	28 0	9 9	22 0	1842	21 9	7 2½	13 6
1826	15 6	5 9	11 6	1843	20 0	6 3	13 6
1827	16 6	6 7½	16 0	1844	28 0	9 1½	16 0
1828	16 0	8 2	15 0	1845	28 0	10 6	18 0
1829	14 0	6 7½	14 6	1846	25 0	10 7½	21 0
1830	16 6	4 8½	10 3	1847	22 6	12 1½	22 9
1831	24 6	5 10	15 6	1848	16 0	10 3	19 6
1832	21 0	8 3	14 0	1849	20 6	3 10	17 6
1833	32 0	9 0½	20 6				

Here, again, we have the same feature, as we have just seen brought out by the Smithfield prices—a great fall caused by the causeless panic following the change of 1842; and then a rise to a higher level than before, under the system of entire Free-trade commencing in 1846. It is remarkable, however, that, even including the three or four years of panic, the average of the six years following the removal of Prohibition has been greater than the average of the six years preceding:—

	Wool.	Lambs.	Draft Ewes.
	s. d.	*s. d.*	*s. d.*
Prohibition—1836–1841	27 7½	8 10¼	18 0
Free Trade—1843–1848	26 0½	11 3¼	18 5½

The only decline here is in Wool; but since the latest of these dates, the price of wool has (even by the admission of Sir J. Trollope, the mover of the Protectionist amendment to the address,) risen 25 per cent. This rise may be safely received as a set-off against the fall last year in the other non-cereal articles;—the cause of which (whatever it may have been) was not importation. It is also worth noticing that, of the three years following entire Free-trade, the prices of one of them

(1848) have been higher than those of any year save one since 1835; and of another, (1847,) higher than any year since 1819. We do not know of any other article of extensive production and consumption, in behalf of which a similar statement can be made.

To what has been here adduced, many similar though smaller facts might be added. Of dairy produce—butter and cheese—the imports decreased last year. No roots are imported, except Potatoes; and of the price of these not even the most morbid grumbler can complain. The price of working horses is 50 per cent. higher than ten years ago,—although, in 1835, a Committee of the House of Commons, in its eagerness to aggravate agricultural griefs, estimated that railways would cause that particular species of stock to sink two-thirds in demand and value.

Here, then, we have the important and half-forgotten fact demonstrated, that *two-thirds in value of the annual agricultural produce have been and will be unaffected by importation*,—the greater part of those two-thirds being also of high value in cheapening and increasing, by the supply of manure, the production of the remainder.

Coming to the assertion so often made that, in the other third of their produce, our agriculturists cannot, under Free-trade, maintain competition with the foreigner, we beg to recall another fact, which it is the custom to forget or wilfully pass over—namely, that Free-trade and other recent changes, if they have done something *against* the British agriculturist, have also done something *for* him. From the language of our alarmists, it might be inferred that agriculturists had everything to sell and nothing to buy, and that no produce has fallen in price but theirs. A valuable paper, read by Mr. Porter at the last meeting of the British Association, however, shows that the price of everything which the agriculturist eats, drinks, or wears, has fallen in a much greater proportion than the price of that one-third of his produce which alone has fallen at all. Then, various seeds and foreign feeding stuffs, formerly liable to duty, now come in either free or at greatly reduced rates. For instance, the reduction of the duty on grass seeds from 21*s.* to 5*s.* per cent., is equal to 2*s.* 3*d.* on every acre sown with grass in Scotland, Ireland, and the North of England; while linseed cake, the free use of which on a farm tends more than anything else—not even excepting guano, to which the farmer owes so much—to increase the produce of his cereals, has fallen at least 50 per cent. within the last few years. Another advantage which has been conferred on agriculturists by Free-trade, and which is certainly entitled to some consideration, is its tendency to give pros-

perity to their only customers, — a point we shall refer to presently, in connexion with another part of the subject. A further advantage, and an immense one, is the tendency of Free-trade to produce *steadiness* of price. The wider the market, the steadier the price. Besides which, all contrivances artificially to narrow the market miscarry sooner or later. The Protective system was like an attempt to keep running water from its natural course and level. The dam was for ever leaking, here a little and there a little; and at frequent intervals, when the 'protected' farmer in the vale below deemed most surely that his fortunes were 'a-ripening,' or whilst he possibly had gone to sleep in his false security, the dam gave way, and down came the deluge, bearing devastation and confusion with it.

Passing on to the natural or non-legislative causes, which are said, in the particular instance of the growth of grain, to make competition with the foreigner hopeless, we set aside, first, the better climate of the foreigner as an admitted though exaggerated fact: we put against it, however, certain natural or non-legislative advantages which the cultivators of the soil of Britain possess to a greater extent, not only than their grain-growing rivals, but than the inhabitants of any other country upon earth.

The British agriculturist has more abundant capital and cheaper than any of his rivals. The more we reflect upon this distinction, the higher value shall we put upon it. The increase of fertility which land derives from draining and manures is ascertained by this time: and equally so, that the land, which our agriculturists occupy, lies in the midst of the best market in the world — a piece of good fortune, which we shall presently illustrate. On the details of this part of the question we do not enter, partly because both the existence of the advantage, and the partial and singularly *unequal* degree to which it has been employed, are matters of admission among all persons of ordinary candour and intelligence, at all acquainted with the subject.

Another particular highly favourable to the British occupier, in which he has a century's start even of the rivals who come nearest him, is the comparative cheapness, frequency, and security of *transit* — a superiority which we always enjoyed to a vast extent in right of our insular position, and which is now immensely augmented by our railroads. If, in order to illustrate the money value of a railroad to a farmer, we take what may be called an average case, and suppose an arable farm of 350 acres to be situated within three or six miles of a station, and to be connected with a great market by twenty miles of rail, we shall find the annual saving on the carriage of the ordinary produc-

tions of the farm to be at least 60*l.** Mr. Smith, of Deanston, reckons the saving at two-thirds of the whole annual cost of transport; which, in the instance we have taken, would give a saving three or four times greater than the sum mentioned: but here, as throughout, we have been desirous to keep on the moderate or safe side. The large element which carriage of all kinds must form in the cost of products, so bulky as those in which the agriculturist deals, is undeniable. We observe that a petition was lately presented to Parliament from some farmers in Ross-shire, complaining of their distance from the London market — a complaint which, from its very absurdity, only indicates so much the more strikingly the importance belonging to the cost of transport. Now what is the position of our rivals with regard to the cost of transport? Measuring the distance of their farms from their sea-ports or markets (and speaking moderately), they have to travel a league of vile roads, — for every mile, of those excellent roads and railways, which even the worst-placed and most inland tenantry of Great Britain is sure of finding almost at their doors. The effect of facilities of transport is seen in the vast disparity, even among our most advanced neighbours, between the prices of produce of the same quality according as it is sold in different districts. M. Passy, in a 'memoir' read before the French Academy of Moral and Political Sciences, in 1844, mentions (and the statement is of more value from having been made incidentally, and when dealing with another subject,) that wheat brings in the vicinity of Bordeaux 25 or 30 per cent. more than wheat of the same quality in Lorraine. Taking a later date, we find, from the official returns for 1849, that in that year the average of the highest of the eight districts into which France is divided for corn-law returns was 25 per cent. above the average of the lowest. Speaking generally, those countries, from which we may really look for exports, are much worse placed than France, as regards internal communication; the rivers being frozen over for months, and the roads, when not altogether blocked up,

* This by no means represents the whole advantage. The railway effects a saving also in the conveyance of manure; and often finds the farmer a market which would be otherwise inaccessible for root-crops, such as potatoes and turnips. For instance, we may mention that the great consuming district of Glasgow has, for the last two or three years, been largely supplied with potatoes carried by rail from East Lothian, on the other side of the island; and that preparations are making this season in the county we have just named — the leading agricultural county of Scotland — for the growth of that root on a scale at least four times greater than was ever known before the potato-rot was heard of.

what would be here considered execrable. For instance, through the Trade Circulars of the corn merchants during spring, we find such advices as these—(*Circular of Messrs. Berry, Henderson, & Co., Leith*, giving extracts from the letters of their correspondents to this effect)—'Dantzig, 10th Feb. From the wretched state of 'the roads since the thaw commenced, our 'supplies are short.'—'Kœnigsberg, Feb. 9th. The bad roads 'prevent supplies.' While these are the complaints from ports like Dantzig and Kœnigsberg, situated on rivers, and in the most populous and prosperous of the grain-exporting countries, we may infer to what a degree the state of their roads must be a burden and impediment, in the case of other countries much more remote and backward; keeping in view throughout, that we are not now speaking of roads of such length as suggest themselves to our insular experience, but of hundreds of miles. Taking these facts into consideration, and remembering that after the foreign grower has reached his *own* port, an addition of about 35 per cent. (see the figures given on pp. 569, 570.) has to be made to its value there before it reaches *ours*, what other conclusion can we come to, even as regards grain, than this—that these natural advantages amount to a *natural* protection much greater than can be thought necessary to make up for any natural disadvantages which the British agriculturist can allege, or at least can prove? and one which none of our other producers, dealing as they do in articles of the cost of which carriage forms an almost inappreciable proportion, can possibly possess?

The greatest advantage, however, possessed by the home-grower, and an advantage of which none but a suicidal policy can deprive him, is, that he lives *in* the largest and dearest market in the world, and has, in his own countrymen, the only considerable community we know of, whose consumption largely exceeds its home production. The case of France during the past year proves this advantage to be infinitely greater than any artificial law could create; and when it is considered that France comes nearest us in the adequacy of her own demand to her own supply, and that she is under the shelter of a sliding-scale, it will be admitted that we have not chosen our instance unfairly. The average price of wheat in the French markets for the ten years ending 1847 was 51*s.* 2*d.*, and during the same period her exports were more than balanced by her imports. In 1849, however, came an abundant harvest; and, without a single quarter being imported, the annual average went down to 33*s.* 9*d.*; and at the close of the year, even in the highest districts, was only 29*s.* 6*d.* Now, why was it that in a country within sight of our own shores, defended by rigid protection,

and not having imported a single quarter, prices fell last year 50 per cent. below its own ten years' average, and 30 per cent. below the year's price in this country, where there was an abundant harvest, open ports, and importations unprecedentedly and (for reasons we have seen) unnaturally large? Mainly, because the French agriculturist has a market only able to take off his average produce; while the British agriculturist has a demand almost always beyond his unaided powers of supply — a demand which has this year absorbed 13,000,000 quarters of foreign grain, and has yet maintained prices 30 per cent. above those of our nearest neighbour, notwithstanding that that neighbour has enjoyed Protection, had no imports, and has had a free access to our markets. Surely it is the height of unreasonableness for our agricultural complainers, not only to refuse to allow weight to facts like these, but never to speak of such a market except in depreciatory language, nor of the great body of consumers of which it consists, except as persons whose interests are socially and politically of no account.

It is quite possible, however, to lay too much burden even on such an ally as the largest demand and highest markets represent. The agriculturists used to be fond of telling the manufacturers that they, the agriculturists (a word they erroneously use as synonymous with the home market) are the manufacturers' *best* customers; they should remember, on the other hand, that the manufacturers are their *only* customers, or nearly so. For forty years our agricultural population has not increased at all, while agricultural produce has increased immensely, — the surplus being taken off only through the increased wealth and number of the other classes. Now, the whole history of the Corn-laws, from 1815 to 1849, shows that an artificially high price of food rapidly injures these other classes, and, by violently diminishing the consumption, speedily reacts on the grain-growers themselves; while, on the contrary, low or moderate prices raise the consumption with a celerity and to an extent of which we have never yet even *sighted* the limits. The experience of last year throws a striking light on this latter point. Every year since 1830 (and we might go farther back, bringing out the same results), we have imported more foreign grain than we consumed. In 1848, for instance, 2,580,959 quarters of wheat were imported; but, although for three months of the year, even the 1*s.* duty was suspended, only 1,865,294 quarters were passed for consumption. However, when we come to 1849, 3,872,134 quarters were, we find, imported, and 4,509,626 consumed. Taking this along with the fact that we had had an abundant home harvest and have now low stack-yards and warehouses, we get a glimpse of the extent to which

consumption is extended by low prices, and restricted by high. Under last year's prices it is obvious multitudes must have eaten bread who could not eat it before; and multitudes have had enough who formerly had too little. A law re-enacting high prices would just be, a law to pluck the bread out of these people's mouths. To say nothing of humanity, it is worse than doubtful if such a policy would be even profitable. No man can permanently profit by the injury of his customers; and in this case the grower of grain is apt to do more than simply *lose* customers. Dear food and bad trade (experience and reason show the two things to be inseparable) reduce the means and number of consumers; but they do more. Agriculture not being able to provide for the natural increase of the population, a certain number of persons must every year find a livelihood in other employments, or must go elsewhere; and, during the last three years of bad trade, emigration took off a number nearly equal to the whole natural increase. Now, where have they gone, and what are they doing? They are on the banks of the St. Lawrence and the Mississippi, growing corn. Whatever changes unfavourably the proportion between our population and our means of employing them, must tend to change them from customers into rivals,—from corn-consumers in Britain to corn-growers in countries to which British ports are open. Turn it which way you will, the more it becomes plain that it is the British agriculturist's interest to be content with his natural advantages, and that every attempt to grasp at more is throwing away the substance for the sake of a very shadow.

Besides the natural disadvantage of climate, our farmers, however, are instructed to prefer frequent allegations of other disadvantages under which they are told that they are suffering, to the same effect. They say that *labour* is cheaper with their rivals than with themselves. To this we return a direct denial,—if what is meant is, not nominal wages, but their proportion to the work done. It would not be difficult to demonstrate, by authentic and incontrovertible details, that, for a long period, the wages of the English agricultural labourer have been barely sufficient to procure him the food and raiment, upon which the amount of labour rendered by him could be actually performed. At its very best, what is spoken of as the raised scale of English necessaries and comforts, comes to little more than that. Avoiding, however, painful and invidious particulars, we point to one general fact, which must, of itself, go a long way to refute these allegations about the dearness of British labour compared with foreign. If the English agricultural labourer were really and to any considerable extent a dearer article than the same class in other countries, we should

observe some tendency to bring in the cheaper article, every kind of natural obstacle notwithstanding. Now, the tendency is all the *other* way. Adam Smith, it is true, has told us that, 'after 'all that has been said of the levity of human nature, a man is, 'of all sorts of luggage, the most difficult to be transported.' But since Adam Smith wrote, everything relating to the transporting of men (except as regards language,) has undergone a revolution, of which he never dreamt: not much more money and time now serve to take a man to New Orleans and Constantinople than would have taken Adam Smith from Edinburgh to London. We see the effects of the change in actual facts, bearing on this question of free-trade in labour. We import no labour, but we annually *export* an immense quantity;—and to where? Principally to America, three thousand miles away, and the very country —which, though wages, and especially agricultural wages, are three times higher there than here, our Protectionists fear as one of their chief rivals in the British corn-market. As regards also the Continent, we *export* both skilled and unskilled labour, and import none. Diversity of language even is no impediment. This is established by well-known facts—from the evidence taken before Parliamentary Committees thirty years ago, down to the latest experience derived from the rebuilding of Hamburgh, or from railway-making at Boulogne, or flax-spinning at Lille. We are satisfied, that the disadvantage to which employers of English labour are exposed in consequence of the higher wages of their labourers is infinitesimally small. When the workman gets more money, it is only because he does more and better work. English wages may be very high: while English labour is very cheap. The Celt is at our door, ill enough off. Several circumstances go towards determining the quantity and species of Irish labour which come into competition with English labour in the English labour-market. Of these causes, nobody can assign to each its true proportion; and say how much Irish labour stays away on account of its real dearness notwithstanding its apparent cheapness—and how much is kept out through the hostile operation of English Poor-laws.

Upon the other two alleged agricultural disadvantages—taxes and rent—it is not requisite to enter. The former,—as regards at least the general amount and pressure of English taxation, compared with foreign,—is the subject of a separate paper; the latter is a matter of private business, and not of public policy. Without interfering with the question,—whether a reduction of rents at this juncture is necessary and just; we maintain that prices must regulate rent, not rent prices; and we only add that it would be a matter of regret and reproach, if any loss caused by the new

system should be allowed by the landlord to fall on tenants, who never benefited by the old.

Perhaps the strongest dissuasive from Protectionist agitation remains yet to be mentioned. Success, or, at least, permanent success, is impossible; and there is immense mischief and risk in the attempt. Never did any set of men 'go to the country'—not even our High Church clergy in the Sacheverell movement, which they seem to be preparing—with a cause more essentially unpopular, or under circumstances more utterly adverse. A tax on bread, and that tax for the benefit, not of the State, but of a class, is at any time an ugly proposal, and is especially desperate at a time like this. In State affairs, it is always more easy for those in possession to defend than to restore; while in this case all the powers that proved themselves powerful enough in the first instance to destroy, remain prepared to resist restoration, and have been multitudinously recruited. The League, though long triumphant among the more intelligent and active sections of the middle class, never really roused nor even thoroughly conciliated the masses. The leaders of the League appeared to think that they had made a great advance, when their public meetings were no longer in danger of being swamped by crowds of Chartists; who, if not subsidised by Protectionist money, were inflamed by the Protectionist fallacy that cheap bread must mean low wages. But all this is changed. That which no reasoning, however forcible, and no eloquence, however unadorned, enabled them to perceive, is now made palpable and visible. Like blind Kent, they 'see it feelingly.' They can now understand it even in Buckinghamshire.* Among the manifestations, all too rude, at most of the Protectionist meetings during the winter, may be detected, even in the most rural districts, a slight foretaste of what would be the characteristics of Protectionist agitation, should it be carried into or near the enemy's country,—that is, into any of the great seats of population; or should the enemy, that is, the great body of consumers, be incited to reprisals by any considerable measure or even appearance of success on the part of their agricultural aggressors. 'In this question,' said Lord John Russell, in that speech on the Address which in breadth of view and quiet force

* 'We did not find that any hope was entertained of a return to 'Protection; indeed, one respectable farmer told us that the labouring 'classes were now so well educated and read so many tracts and news-'papers, that they would rise in a body to prevent it. This statement 'was made by a man in every way opposed to Free-trade principles, 'and was accompanied with expressions of regret at the "evil effects of '"knowledge upon the poor."'—*Times' Agricultural Commissioners, High Wycombe, Jan.* 24.

has seldom been excelled by him,—'in this question every man 'has a stake, every man, woman, and child has and feels an 'interest. If you were to put on a duty raising the price, every 'man would count the additional 1*s.*, 1*s.* 6*d.*, or 2*s.* a week, 'which you would have made him pay for the support of his 'family. Now, are you ready to face that question?' It would be facing a powder-magazine with a torch.

And yet there are, or were a few weeks ago, some of those who have most to lose and most to fear, who seemed, nevertheless, disposed to enter on the enterprise. We shall not soon forget the startling recklessness of spirit and coarseness of speech, with which certain even of the magnates of the land set out, some five months back, on this desperate crusade. Never did poor Chartist demagogue, besotted with ignorance and the fumes of mob applause,—and perhaps 'speaking in hunger for 'bread, not in thirst for revenge,'—vapour either more foolishly or more fiercely than sundry Protectionist leaders, from Dukes downwards. It is an evil thing when Peers talk glibly of 'revolution' as something likely, if not justifiable; and when county members denounce the chief statesmen of the country as 'liars,' amid applauding yells and oaths. And under what motive and cue for passion do these nobles and senators thus

> 'Drown the stage with tears,—
> And cleave the general ear with horrid speech'?

It is in a breeches' pocket cause,—a question between their pockets and the pockets of the rest of the community. They talk of 'revolution,' and do their utmost, by fair means and foul, to get up an agitation,—in order to escape from the grievance of cheap bread! What! after Great Britain—'serene, like heaven 'above the clouds'—has preserved throughout the revolutionary storm which has been recently sweeping over Europe, an attitude and aspect which will form one of the noblest features in her noble history,—after having remained unshaken, unseduced, unterrified, amid the war of principles and the crash of thrones,—is she to be cast into danger and confusion from motives mean as these, and for objects so unreasonable and hopeless? And worse, after our industrious masses stood patient through the semi-famine of 1847, and loyal through the revolutionary fever of 1848, are our aristocracy to exhibit themselves in the character of wanton disturbers of the public peace, whenever their commodity, the poor man's loaf, is not so dear as scarcity and monopoly might make it? Such a course would not be grateful, nor decent, nor prudent; and is as alien, we believe, to the instincts of English gentlemen, as, we are sure, it is to their interests.

ART. X. — 1. *Rückblick auf die Entwicklung der Deutschen Angelegenheiten im Jahre* 1849. (Retrospect of the developement of German Affairs in the year 1849.) Berlin: 1850.

2. *Preussen und seine politische Stellung zu Deutschland und den Europäischen Staaten von Bülow-Cummerow.* (Prussia and her Political Relation to Germany and the States of Europe.) Berlin: 1849.

3. *An Heinrich Gagern; eine Stimme aus dem Deutschen Volke.* (To Henry Gagern; a Voice from the German People.) Stuttgard: 1849.

4. *Political Letters on Germany.* By GERMANICUS. (In the 'Globe' Newspaper.)

WE closed our remarks on the Political State of Germany, twelve months ago, at the moment when the Headship of the German Union had been offered to the King of Prussia by the Parliament of Frankfurt, and while his answer was still uncertain. It was a moment in which much of the future of the civilised world hung upon the will of one man. A spontaneous and informal meeting of representatives of public opinion had drawn from the Germanic Diet the convocation of a Constituent Assembly, whose legality was undisputed, and whose decisions only wanted to be acted on to become laws. The arch of the constitution had been gradually raised, and the key-stone lay ready to consolidate the work. After apparent hesitation, and with semblances of regret, the King of Prussia declined the honour and the responsibility, and in so doing sealed the doom of the German Parliament. Disheartened and, for the time, distracted, the Constitutional Party, who had struggled long and well against fanaticism and treachery, almost disappeared from the scene: the last days of the Assembly were characterised by impotent violence, and its extinction was almost more welcome to the friends of its promise and its purpose, than to the enemies who rejoiced over its downfall.

We have sometimes thought that the magnitude of this enterprise of a German Empire has not been sufficiently understood in this country to be justly appreciated; and the contemplation of what it was the King of Prussia by that act rejected, may both surprise and instruct. It was the revival in himself and his House of the great traditionary organisation of that sacred Roman Empire, which fills the central period of European history: it would have placed within the control, not indeed of his arbitrary will, but of his counsel, his judgment, his administrative skill, and all the moral influences from which a sagacious constitutional monarch

can distil so much real power, the political destiny of thirty-three millions of men, more generally educated, and less exposed to violent popular instincts, than any other civilised people: he might have wielded, for the defence of the nation and for the assertion of its rights and dignity against other powers, a force of not less than half a million of highly-disciplined soldiers; and through him a distinct and authoritative foreign policy would have impressed on the history of Europe the desire and opinions of the German people, instead of the nullity of the diplomatic equilibrium, which may represent, indeed, contending principles, but which expresses only rival interests.

But the acceptance of such a trust, though in itself an act of courage, does not imply the power or the means of conducting it to any good issue. There are two other grave points of consideration,—the obstacles which stood in the way of success, and the capacity of the man to surmount them. We have never concealed from ourselves or others the gravity of these impediments. However earnest and truthful the yearning of a large majority of the people of the several German States towards a comprehensive unity,—a feeling based on a supposed historical reality, and severely tested by persecution and by time,—yet it was evident that the ready consent of the governments of the smaller States, and the tardy or prospective adhesion of the larger, had little foundation either in their national sentiment, personal conviction, or high policy, and could only be the result in some cases of individual timidity, and in others of absolute despair. Many, and indeed most, of the grand-duchies and principalities had found the independence conferred on them by the Treaty of Vienna an intolerable burden: the evils of political convulsion and discontent were infinitely aggravated by the smallness of the locality: the public force was not sufficient to afford protection to life and property against the tumults of the hour; and royal dignity had not those means of preserving itself from insult, which the lowest delegated authority enjoys in a large and well-organised community. But in the case of the four Kingdoms, it was very different. As long as the army remained faithful, there was no particular personal danger; and it was clear that nothing short of an exercise of revolutionary power on the part of the people, or the pressing fear of it, could force the Governments into a scheme, with the grandeur of which they had no sympathy, and the immediate effect of which, in the elevation of Prussia, was eminently unwelcome to them. Hanover, with her old grudges and still mindful of the thwarted ambition of her neighbour,—Saxony, with her sense of inconvenient contiguity, and the recollection of 1815, when her very

existence was in peril,—and Würtemberg, with her avowedly Austrian and Russian predilections, were none of them likely to submit to anything but necessity; while Bavaria, proud of her historical and often anti-German past, and regarding herself as distinct from the North of Germany both in religious sentiments and in some material interests, was evidently determined to struggle hard, before she permitted her political individuality—now idealised to her imagination by her great sculptor Schwanthaler—to be subordinately grouped into a German Hegemony. The hostility of Austria to the project was sure to be that of a defeated rival: her unhappy relations with her own provinces could not, indeed, at that time have allowed of open hostilities, but no resources of diplomacy and intrigue would be spared, to mar the fortunes of the new-born Union, and present menaces might easily be fanned into future war. Of the opposing influences of foreign Powers we speak with caution, because they are each so modified by the internal condition of their several countries at any particular moment, that it is difficult to estimate the worth and weight of the opposition. But it has ever been the traditional policy of France to prevent the cohesion and compactness of Germany*; and the establishment of this mighty Union, emanating from the popular will, constraining the inclinations of dynasties, and accepting all the principles of constitutional government, must have combined every element most distasteful to the Czar, and most likely to provoke his interference in the centre of Europe.

On the other hand, there is perhaps no undertaking of equal importance in history against which equal obstacles have not been brought to bear, but which men have not been found equal to surmount. The fable of Napoleon Bonaparte, as recorded by Archbishop Whately, rests on the unlikelihood of his success: for the heroic is ever supernatural, as far as ordinary life is nature, and our adult and accomplished world is just as susceptible of fantastic events and dramatic surprises as that distant past which imagination adorns and obscures. Will not the February of 1848 seem to future historians a moment of time as astonishing in the magnitude and diversity of its accidents, and as important in its results, as perhaps any other recorded on the dial-plate of

* We have heard a distinguished French statesman very lately assert 'that he should think even the possession of the Rhenish 'Provinces of Prussia a poor compensation to France for the dangers 'of a German Union.' There was more of this feeling in the moderation that prevented the French army in 1848 from establishing the kingdom of Northern Italy than liberal statesmen are willing to own.

the world? That hour assuredly was not unpropitious to great and new events; and the moral impulse from which the movement sprang had already done so much, that probability was no limit to its power. If in 1847 it had been predicted to the German governments that in the following spring the hitherto obstructive and absolutist Diet would unanimously decree, and all its members, including Austria, would issue orders for, the election of the National Assembly of Germany,—in which the power should be vested to give a Constitution (*die verfassunggebende National-Versammlung*); and that the Diet would solemnly surrender all its rights into the hands of a central power responsible to this Assembly, what language could have characterised the extravagance of the supposition? And yet this came about from two simple causes,—the intense desire of the German people for a national unity, and the involuntary confession of the separate governments, in the crisis of revolution, that there did lie in that union an ultimate defence, both of the social order, at that time seriously threatened, and of the very authorities themselves, at that time so gravely endangered.

When, indeed, the immediate peril was past, the international difficulties revived; and the unanimity of feeling, which had brought the Assembly together, was shattered by opposing interests and dynastic jealousies. The position of Prussia soon clearly defined itself. In March, 1848, M. Von Gagern had proposed to the Legislative Chamber of Hesse-Darmstadt that, until some complete change should be effected in the constitution of Germany, one German sovereign should be invited to take the direction of the affairs of the Confederation; and he strongly indicated the King of Prussia, as the only one whose political tendencies and material circumstances permitted him to be selected. The meeting of fifty constitutionalists, which took place at Heidelberg in the same month, under the superintendence of Gervinus and Bassermann, and which convoked the Vor-Parlament, made no concealment of its intention of proclaiming the King of Prussia head of the new *Bund*. But the revolution of March at Berlin considerably changed this aspect of things. The popular opinion which had looked on the King of Prussia as the necessary 'Deliverer,' now finding him in open battle with a portion of his people, and amenable to the same accusations as other sovereigns, turned bitterly against him. His tardy concessions to the popular will were, then at least, believed to have been extorted by necessity, and no credit was given to him for them. On the other hand, the ready acceptance of the convocation of the Frankfurt Parliament by Austria, had layed for the moment its own revolutionary spirit, and had been fol-

lowed by the nomination of the Archduke John; so that the position of the Austrian party in the Assembly was very different from that which the statesmen of Western Germany could have anticipated. No one could have believed that Austria would have succeeded in making any head against the tide of liberal opinions or against the long-nourished and carefully inculcated doctrine, that the unity of Germany had been the passionate dream of the youth of Frederick William and was now the main project of his experienced manhood.

It had, however, required a protracted and consistent course of anti-German policy on the part of Prince Metternich to dissociate the ideas of German Unity and Austrian Headship in the German mind. When the proclamation of Kalisch, in 1813, had raised the standard of German nationality, and summoned to the field those popular hosts, who reinstated the power which the armies of Frederick the Great had been unable to preserve and would have been unable to restore, no thought of Prussian supremacy existed in the mind of any man. When, again, the princes had betrayed the hopes of the people, and Germany, dismembered and 'leas'd-out,'* found herself nearly as powerless for either her own developement or her influence on the world as while she lay bound beneath the eagles of France, the forbidden dream of German empire was surmounted with the figure of Barbarossa, and the descendants of the House of Hapsburg were looked on as equally recreant to their own uncontested rights and their inherited duties to the common fatherland. The policy under which Austria rejected and persecuted this feeling, instead of making use of it, was certainly not founded on any chivalrous disinterestedness; but was a necessary consequence of a principle, the wisdom of which late events have rather confirmed than disproved,—namely, that the unitary government of Austria is only possible under an absolute sovereign. So strong was this conviction in the minds of the Emperor Francis and his minister, that, on the reconstruction of Europe, Belgium was given up without an effort; and Lombardy and Venice (which it is now a high political heresy to conceive of as disconnected from Austria) were accepted with reluctance, the Emperor having at the first pledged his word to the British commissioner that he would not resume them. The apparent sacrifice was reasonable and

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'This dear, dear land,
Dear for her reputation through the world,
Is now leas'd out (I die pronouncing it)
Like to a tenement or pelting farm.
Richard II., Act 2d Sc. 1st.

far-sighted. For the non-German population of Austria would in any case so far outnumber the German, that, under a common constitutional system, the German element would necessarily be overpowered; while, on the other hand, it was very problematical whether provinces so entirely alien as these in habits, language, and position, could be retained in faithful and profitable connexion under an irresponsible central rule. When it had been once assumed that the federative principle should not be applied to Austria, but that, on the contrary, all the efforts of the government were to be bent towards obliterating provincial distinctions, it was wise to make the Empire as compact as possible: And, though the Lombard soldier is now playing *mora* on the frontiers of Saxony, this military triumph has been achieved by a waste of resources and of vigour which deprives the victory of present profit or future peace. As long, therefore, as the Austrian Government was determined rigorously to pursue the system of an absolute and centralised authority, it was impossible for it to take advantage of the great national feeling, which only saw in Austria the traditionary Head of the German Federation, administering its affairs in strict adherence to laws and customs, and honouring the liberties of the other States as its own. It was not so much an opportunity that had been lost by Austria, as that circumstances had arisen entirely incompatible with the form of national existence, which she had advisedly adopted and constantly adhered to. When, after the lapse of years, the influences of Austria and Prussia met face to face at Frankfurt, the chief author and agent of this system was himself in exile. On that occasion, Austrian statesmen would have done well to remember that, while, on the one hand, they could not reasonably have attempted to divest themselves of complicity with the former system, and to claim as their own the interests they had for thirty years been trampling under foot; on the other hand, it had now become equally extravagant to hope to realise what their ablest minister had never attempted in his plenary authority, — a unitary Austria, exercising empire over Germany.

But the suspension, or even the extinction, of the claims of Austria to the headship, did not necessarily imply their assumption by any other Power. Confederation (*Staaten-bund*) and union (*Bundes-staat*) still remained two possible and distinct schemes of reconstruction. For all her own immediate purposes Austria had always found the old Diet sufficiently subservient, from Prussia down to Lichtenstein. But the restoration of the Diet implied the destruction of all that the Frankfurt Assembly represented: the very existence of that body had been an abso-

lute proof that the Diet had failed of its object and end: the constitution they were there met to frame was of necessity to be something in principle and action other than the Diet; and hence the representatives of Austrian interests, as opposed to German, became members of the Assembly for the purpose of destroying it, and framers of the constitution with the intent of making it null and void. Thus, when the parliamentary history of Frankfurt comes to be written, it will be seen that no abnegation of political consistency was too great to accomplish this object. If the Union must be decreed and the Headship offered to Prussia, the main effort was to be directed to giving it such characteristics as would make it most unacceptable to the King. Universal suffrage, — unwelcome to all industrial interests, as well as contrary to the general German appreciation of political power as a trust; and the suspensive veto,— eminently offensive to a mind which even at the moment of concession loves to cheat itself with the imagination of its own unfettered will,— these and other democratic portions of the constitution, were carried by the votes of the Austrian members.

The essentially Conservative and Constitutional Party, of which Gagern is the head, was thus thwarted by the very persons, who, if not Austrians, would have been its natural supporters; and the democrats profited by the aid of these treacherous allies. The design was successful; and the Constitution offered to the King of Prussia gave a plausible pretext to those who described it as an ill-concealed Republic. Many of the princes who adhered to it made no secret of their belief, that it would seal their political doom; and the king was earnestly warned, even by those who were not absolutely disinclined to the undertaking, to beware lest he became the puppet of a merely destructive faction, who would use his name and that of Prussia to complete the disorganisation of society. Nor were there wanting accusations of treason to the order to which he providentially belonged. The cause of kings in such an hour, it was said, was the cause not of one, but of all; and the man of honour was appealed to, when the statesman hesitated. There are two springs of human action, before either of which all these and similar remonstrances might have given way; — intense personal ambition, or entire conviction of rightful duty. But neither of them was here. When the hour of action arrives, it is not enough that a man should have his theory of what he would wish to see accomplished; the Deed comes to him dressed in circumstances so different from what his fancy had depicted: it stands before him, long expected, yet hardly recognised: and the opportunity, on which days have meditated and nights have

dreamt, passes by unseized, and is lost for ever. Heroic ambition, unshaken and unscrupulous, working out its ends by evil or by good, and trusting to be absolved by the history itself has made, rejoices too heartily in the occasion of action to analyse what lies beyond. Patriotic or philanthropic devotion confronts the danger, comparatively careless of victory, in the self-sufficing consciousness of right; and is less the agent of its individual will than of a certain divine necessity. By one of these impulses Frederick the Great raised up Prussia, by the other Washington created the United States; and either might have erected a United Germany. As it is, the '*gran rifiuto*' of modern times will long remain a subject for the conflict of probabilities; and be discussed as one of those events, which, if it had happened otherwise than it did, might have altered the history of Europe.

The King of Prussia, now acting under the counsel of General Radowitz, attempted to obtain by diplomatic means what he had rejected when presented by the popular will; and the events which occurred in rapid succession proved incontestably that there was no fear of a fierce and brutal demagogy succeeding, even under the most favourable circumstances, to turn the national sentiments to their own ends. The Democratic Party believed that the moment was arrived when the people, hopeless of any good from above, and indignant at the abandonment of the great cause by their chosen chief in the crisis of its consummation, would rise in its wrath and sweep before it all established government, as it had done in France on much less provocation. Baden and Saxony burst into open revolution; in the former the extinguisher itself caught fire, and the army joined the rebels. Austria at the time was too busily occupied with her own embroilments to be capable of offering any material assistance, and no army but the Prussian seemed of sufficient force to arrest the movement. But the King of Prussia could not leave his own dominions unprotected; and it was only by calling out the Landwehr, that he was enabled to succour his distressed confederates. On this emergency, the king summoned his people to be the guardians of public order in Prussia, while he put down by force the outbreaks, which his own refusal of the Headship of Germany had provoked. This was much to ask; for it required the Prussian people to assume the attitude of repressing the excesses to which the irresolution of their sovereign had the appearance of having mainly contributed, and also to show him a mark of entire confidence at the very moment when he had disappointed their highest national hopes. And yet, almost without an exception, the service was faithfully discharged,—that service, which would

have been rendered with tenfold readiness, had it been demanded to maintain order and arrest confusion in United Germany. There is also little doubt, but that the ultra-democratic portions of the Frankfurt Constitution would have been constitutionally altered with great facility: or that the reaction against the extravagancies of democracy, which was certain to invade the minds of men, might have been prudently used to fence round the central authority with all such protection as was compatible with constitutional freedom. The governments which had received, and those who might desire to receive, the assistance of Prussia in their hour of need, were naturally expected to be prepared with some equivalent. The results of gratitude were now to be added to those of fear, and upon this groundwork the so-called League of the Three Kings,— of Prussia, Hanover, and Saxony,— was established. It was based on a constitution which embodied all that was really essential in that of Frankfurt: and the parties were bound to adhere to this engagement for the space of one year. If by that time no arrangement had been come to by the other German States, they were at liberty to reconsider the scheme. The King of Würtemberg, having been forced into submission to the Constitution of Frankfurt, did not think it worth while to adopt the Prussian modification; and Bavaria, after holding out hopes of an amicable agreement, grew more positive in her alienation, in proportion as Austria grew freer from actual embarrassment, and more able to afford her a direct support and countenance.

The intervention of Russia in the Hungarian war had now liberated Austria—not from any great national calamity, but—from the necessity of admitting the limited independence of that extensive kingdom. There was no period during that conflict, up to the actual intervention of foreign troops, when the young Emperor would not have been joyfully crowned at Pesth as King of Hungary; and it is doubtful whether that would have not been the result of Hungarian victory, even at the last moment. But, there are certain favours which no man can receive at the hands of another without some loss of self-esteem, and so it is with nations. Gloss it over as they may, the acceptance of this assistance has inflicted a most humiliating wound on Austrian dignity: and all the brave blood in which it has since been bathed cannot heal it. To have been the first German power to call in Russian troops to its assistance, was an odious characteristic in the judgment as well as instincts of all true Germans: and the pretensions of Prussia must now, accordingly, be doubly galling to the cabinet of Vienna, after so flagrant a demonstration of its own weakness. In the very cause of order, of which Austria

had been the persistent champion, Prussia was winning national laurels all her own, while Austria was receiving Cossack aid. The very provinces which Austria had of old wrapped round the German Empire, and stood between Germany and France, were now rescued from anarchy by Prussian troops; and Saxony was compelled by circumstances into that dependence on Prussia, which, from her local position, it must have been naturally one of her chief political objects to avoid.

About this time a meeting of the Conservative National Party took place at Gotha, at which it was resolved to adhere to the League of the Three Kings, distinguished by the title of 'the '26th of May.' By this act a certain sanction of public opinion was given to what otherwise might have been regarded as a simple demonstration of royal will, and liable to all the changes and chances of that condition. This engagement gradually received the accession of all the Powers who had been parties to the constitution of Frankfurt, with the exception of Hesse-Homburg (whose landgrave is an Austrian field-marshal,) and of Frankfurt, still the residence of the Austrian Archduke John. Plenipotentiaries of all these governments met at Berlin under the presidency of Prussia, for the purpose of preparing the drafts of the measures to be laid before the General Assembly, which it was now decided should be held at Erfurt. Military conventions were also entered into, which drew closer the relations between the forces of several of the States and those of Prussia. During these arrangements the liberation of Austria by Russian arms enabled the kings of Hanover and Saxony to show with how little sincerity or good-will they had joined the League at all, and it was only by more firmness than Prussia had often exhibited, that she succeeded in definitively fixing the convocation of the Assembly for the 20th of March, 1850.

If the extinction of all enthusiasm and of the power that accompanies the passionate impulses of multitudes delays almost indefinitely the solution of the German question, and complicates its difficulties by allowing authority to interests and designs which would otherwise have been swept away on the instant, it is an advantage to a foreign reviewer to be able now to state the case as one of facts, and to balance the plain reasonableness of the propositions before him. The long and weary negotiations between Berlin and Vienna have produced no fruit; neither the consent of Austria to a German Union, nor the contentment of Prussia with a simple Federation. The division of Germany into Circles which would submit each of the lesser States to one of their powerful neighbours, and thus absorb them into the several kingdoms, has been one basis of the Austrian proposals. This

plan would reconstruct Germany under six divisions; and was in no way unwelcome to the smaller sovereignties; for by these means a better chance of future importance was held out to them, than by any other political arrangement. But just in proportion as the power of these separate kingdoms was consolidated, would the subdivision of Germany be confirmed; and, whatever other advantages might result from it, the scheme supposed an entire abandonment of all notion of a United Germany. A circular from Prince Wittgenstein to his diplomatic agents, dated July 21. 1849, sketches out a simpler form of partition; viz., an Austrian Germany south of the Main, and a Prussian Germany to the north. This is a scheme which could only be realised by sheer material force; and which has neither historical basis, nor public opinion, nor State necessity to stand on. Any such project is totally without a precedent, unless a precedent is accepted in the dismemberment of Poland, or in the secret treaty (of the 14th April, 1816) between Austria and Bavaria, in which the former power guarantees to the latter the reversion of the Baden Palatinate, in case of the extinction of the direct male line of the existing Grand Duke. By this treaty Austria is exhibited disposing of territories, over which she had not the slightest pretence of right; thus evincing the sincerity of the regard so loudly expressed by her for the independence of lesser Powers, — the appearance of which at least was preserved in the old Diet by the parity of votes given to the smaller and greater States. But a new device has been lately started, and at the present moment is attracting the attention, more perhaps than the confidence, of the public. The former Austrian proposals had altogether rejected the principle of popular representation; a course which it should seem is no longer regarded politic. There shall therefore be an Assembly, consisting of about 300 members, — one third elected by the Legislative Assemblies of Prussia, one third by those of Austria (including all her non-Germanic States), and one third by those of the rest of Germany. Above this must be placed a Directory of Royal Commissioners, one named by the Emperor and each of the six Kings, and one by the two Hessen (Darmstadt and Cassel). The other States can appoint one of these seven its representative in the Directory, except where especial engagements of agnation and rights of succession connect it with some especial Power — a stipulation evidently introduced to prevent the general surrender of themselves by the smaller States into the hands of Prussia. It is with the same object that the two Hessen are preferred to Baden as the seventh Director, in order to cut off Baden from Prussian influence, and thus force her into submis-

sion to Bavaria. To this scheme the three kings of Würtemberg, Bavaria, and Saxony have formally acceded, the latter at the imminent risk of a collision with his parliament. Hanover, as yet, abstains, both on public and private grounds. Her local isolation prevents her from joining a league from which she could derive no material advantage; and there are men among her ministers who anticipate that the flagrant false pretensions and extravagance of the scheme would, if it attained any substance, drive the whole public opinion of Germany to Erfurt as the only hope of refuge.* For if such an Assembly were convened, it would contain some fifty or sixty deputies, not only not Germans, but in many cases, and in some justly, implacable enemies of the German name and power,—who, in a division of parties, might become the arbiters of German destinies. These fears, however, never will become alarming, from the universal conviction that the Assembly, as proposed, is a mere bait thrown out to catch the constitutionalists; and that its only serious intention is to arrest the congress of Erfurt. How indeed could the hundred Austrian members be elected by the Legislative Assembly of Austria, which is not yet in existence, while the Directory might be summoned at once and assume the whole faculty of administration? And when this authority had been once constituted, what reasonable man can believe that any portion of its power would be willingly abandoned to the chances of even such an imperfect representation?

Were it really possible to test the opinions of the intelligent and educated classes of Germany on this question of Unity as distinguished from the interests of princes, the theories of philosophers, and the schemes of statesmen, we should rejoice in the occasion. We are by no means minded to assume that the impulses which called together the Parliaments of Frankfurt still exist in the sober second-thought of the people; but we must own that, as yet, we have no proof to the contrary. There is, no doubt, a strong party who are repelled by the prominence which circumstances have given to Prussia in the practical working out of the idea, just as there is a large body of Prussian officials who have no notion of opening Prussian employments to the rest of Germany, and who raise the cry that Prussia must perish when Germany begins. Now it is clear that Prussia, having interpreted the 11th article of the Federal Act of 1815 into the right of all and any

* See a dispatch of M. Detmold, Hanoverian Plenipotentiary at Frankfurt (dated Feb. 14.), which has found its way into the Cologne Gazette of March 21.

German States to form among themselves a league of any kind, — even, as in the case of the Hohenzollern Principalities, to merge themselves in any other State, — she cannot contest with Austria or Bavaria the right of forming with the kings or other princes such a confederation as they may think fit. These are the privileges of the dynasties; — beyond and above these rest the rights and the will of the people. No portion of Germany, except Austria, is now without its legal organ; the press is free; public meetings on this topic could hardly be dispersed by force, if conducted with order; and we own that we should see our way much more clearly by these lights than by any array of diplomatic notes, of projects written to be rejected, and counter-projects rejected before proposed.

Germans must not be surprised that England, whose commercial interests are so intimately bound up with the peace of Europe, should look with suspicion on any political change, which may compromise the friendly relations of the great Continental Powers. It requires both knowledge and foresight to understand the evils which threaten the peace of Europe from the old constitution of Germany; but it requires neither the one nor the other, to feel that the irritation of Austria and the wrath of Russia are elements of future distress to all other European nations. On the other hand, in case the rivalry between Prussia and Austria could be turned into any fair and liberal alliance, this would, in itself, be a guarantee for peace; and any organisation of Germany, founded sincerely on such a basis, not dynastically but nationally, might well defy the violence of all Foreign Powers. If, therefore, the Austrian scheme were practicable, its advantages are undeniable; and nothing but a consideration of its material and moral obstacles has inclined us against it. Some of these we have already alluded to: the immense disproportion of the German and non-German populations; the non-German and, frequently, anti-German sympathies of whole races of Austrian subjects; the pride and power of the Slavonians, who make no concealment of their hatred and contempt for Germany, which they look upon as crumbling into senile impotence, while the future of Europe rests with their youthful energies: how can these and any principles the like of these possibly become constituents of a German Unity? Again can Germany, or ought she, to be made responsible for all the complications of foreign relations, to which the diverse and distracted portions of Austria expose the Austrian government, — for instance, to a war with Piedmont or France for Lombardy, with Russia for Gallicia or Transylvania? Nor would the strength which Austria

might acquire by the German Union be of a nature to secure her from those acts of cruel and treacherous weakness which have disgraced her administration, and are still dishonouring it. The permissive massacres of Gallicia or the proscriptions of conquered Hungary may be repeated any day, as long as no higher moral principle than the success of the hour shall guide the counsels of Vienna. Providence wonderfully adapts the moral strength of governments to the elevation of their moral standard; and self-defence is a poor excuse for evil deeds, when the weakness that makes it necessary is the consequence of ignoble motives or willing ignorance. And has the moral or the intellectual elevation of the Austrian government or people been such as to authorise her to assume and retain the direction of any large portion of the human race? A strict police gave to the sensuality of Vienna a sobriety — even a decency — which had the effect of organising vice to an extent almost unknown in any other capital. The absence of all proper excitement to the understanding or even imagination encouraged an animal life which debased but did not shock, and which, if completely successful, would have ended as much in limiting as in perverting the human faculties. But as weeds will grow up where seed is not sown, there was enough of prurient and rampant life to prevent this consummation. Good books were not read, but bad ones were eagerly devoured. There was a regular hierarchy of forbidden publications*, and those absolutely interdicted had the largest circulation. While the North of Germany was rising into a higher existence, under the inspiration of poetry, history, and philosophy, there was nothing too corrupt or too dull for the Austrian market; and thus there is little wonder that the outbreaks in the Austrian cities have been characterised by a purposeless confusion, and have resulted in less political improvement than has been generally the case in the recent series of popular commotions. To replace Prince Metternich by Prince Schwarzenberg, and a patriarchal despotism by an indefinite state of siege, is as sad an issue of the efforts and sacrifices of political enthusiasm as its bitterest enemies could desire.

Germany requires moral guidance as well as national improvement; and if Austria cannot supply the one or the other, can Prussia? The negative proposition is doubtless much the easier to decide. In the encouragement of commerce, at least, Prussia has deserved well of Germany: she is the author of the Zollverein, the revision of which, at the end of 1853, she pro-

* '*Damnatur*,' '*Non Admittitur*,' '*Transeat*,' '*Erga Schedam.*' In the last case the name of the purchaser was transmitted to the police.

poses shall be submitted to the German parliament. The scheme of German Unity must attach Hamburgh to the Commercial League, — an object which would long ago have been obtained, in conjunction with another still more important, had not Baron Von Bulow broken off the negotiations, all but concluded, for the adhesion of Hanover. That State, not unreasonably, demanded some pecuniary satisfaction, by way of compensation to her people for the increase of price in many articles of common consumption, which would have followed from her junction with the Zollverein. The propositions were refused at the very moment when their acceptance seemed certain; and but for this accident, Prussia would have met the question of a German political Unity in 1848, with a commercial Unity already complete, Austria alone excepted, — an immense advantage as a starting-point. As it is, the power of exclusion from the Zollverein, on its revision, is a weapon of force in the hand of Prussia, and may be skilfully used, especially against Würtemberg and Bavaria. The Austrian government feels the full advantage of commercial union with Germany, and many points are already in process of agreement with Prussia. But it does not seem likely that any terms will be arrived at, as concerns a common tariff; for Austria, although inclined to turn in the direction of free imports, can find no better way of conciliating the States of the Zollverein than by proposing that they should consent to a higher tariff, until such time as her national interests are sufficiently advanced for her to admit of a liberal one. Again, after much irresolution, and even semblance of bad faith on the part of the authorities, and after some immoderate acts on the part of the representatives of the people, the Prussian parliament is now firmly cast in a mould which promises endurance and developement; while, on the contrary, the paper-constitutions of Austria bear about them a singular unreality and disregard of circumstances — so very singular, that they look less like the theories of well-intentioned men, than deceptive measures artfully designed, should they be ever put in practice, to discourage free institutions by their failure, rather than encourage them by their success. From present appearances then, we think, it may fairly be concluded that the political influence of Prussian predominance would not, in the long run, be adverse to the constitutional liberties of Germany. Under a constitution so popular as that proposed at Erfurt, it is impossible that minor despotisms could revive; and the breadth of political views and the sense of the national dignity which must be created by the habits of a great assembly would go far to neutralise the petty

spirit of local polities, and infuse a higher feeling into the separate legislatures.

Although the accidental character of the present rulers of Prussia should justly have little to do with an enterprise, the success of which must depend on something far above and beyond the merits or conduct of individual men, yet it is in the power of those who hold authority in Prussia, at this moment, to check or advance the movement almost at will. Much will turn on the position assumed by her at Erfurt: if it is firm and independent, — relying on the affections of the people, — regardful of the rights of princes, less as individuals, than as representatives of their subjects, — tolerant of objections and criticism, — and rather contemplating the necessity with regret than boasting of the occasions in which her material force has been called on to defend the cause of order, — in that case, mere insolent menaces and coarse insinuations will not prevail against her work. But she must also be prepared to have the conduct of her government towards its own people taken as a test of her sincerity. If, for instance, the independence of Switzerland should be violated in the name of the feudal protectorate of the Prince of Neufchatel, the weaker members of the League will naturally feel less confidence in entrusting themselves to Prussian power; if restraints upon the press, or limitation of trial by jury, take place at Berlin, the constitutionalists of Germany will be the less willing to attach themselves to a centre whose influence might be indirectly extended even to the modification of those fundamental rights which Frankfurt had established, and which it has bound itself to confirm. And as regards Foreign Powers, it is essentially incumbent on Prussia to give no colour whatever to the very natural imputation, that in all this project her first object is her own aggrandisement. This suspicion can only be set to rest by a resolute perseverance in declining every species of superiority not absolutely necessary for the service of the Union. Radowitz has begun well.

It is agreeable to many minds to represent in some personality an idea or scheme of action which they desire fully to apprehend. In that of German Unity the figure of Gagern offers itself in undisputed prominence. His father, acting as representative of the House of Nassau at the Congress of Vienna, distinguished himself through his desire to extend the sphere of the German Diet, by the admission of Luxemburg and Holstein, — a plan, however, which would have weakened its influence, by dispersing it. His son joined the army in 1815, and passed into precocious manhood on the field of Waterloo, where the accidents of war placed him for a moment in a position of command.

Thence he returned to civil life, and at the University of Jena partook with enthusiasm of all the hopes and projects with which the youth of Germany hailed the new-born independence of their country. We know how these have since been thwarted and perverted; but with his sanguine temperament disappointment rather dimmed than darkened the future; and what was the zeal of the student is now the faith of the statesman. He soon after became distinguished in the service of the State of Hesse-Darmstadt, and retained office till he found his own opinions running so continually counter to those of his government, that he felt he had no alternative but to resign. After a short course of opposition, he resolved to retire from politics; and considerations of a private nature favoured his determination. He had been attached to a lady in the full enjoyment of health and beauty, and had looked forward to a proud and prosperous domestic life as ample compensation for the troubles and vexations of public duty. But a serious and probably fatal malady seized upon the object of his affections, and brought the daily prospect of death into the natural region of life and hope. The lady long combated his resolution to devote to her weakness and sorrow the vigour and bloom of his existence, but in vain. For nine years he tended her with undivided care, and he since has mourned her loss as deeply as if she had been to him all that their hopes had ever promised. Indeed, her great moral and intellectual qualities must have given to those years of apparent sacrifice a present happiness of the highest order; for, it was in that atmosphere of pure and tranquil affection that his mind was disciplined by study and experience to the stature it has now attained. Agriculture became his favourite pursuit; and his anxiety for the improvement of the cultivation of Germany led him to a minute consideration of her material interests. These he found to coincide in most points with that Union of the German States which had been the delight of his youth; so that, on his higher and inner life being broken up, he returned to public occupation, his imagination fortified by practical learning, and his feelings justified by his judgment. His political worth became apparent to the whole of Germany, as soon as it was perceived that his appointment to the government of his adopted country arrested the torrent of revolution in 1848; and all the public men of different States, who saw present safety and future welfare in German Unity, at once turned to him instinctively as their friend and guide. In the conduct of this question, steering between anarchy and despotism, he has shown himself worthy of this trust: his massive and towering figure and

his genial countenance inspire immediate confidence; while a hearty optimism, which in the moment of personal failure seems to his colleagues to have a character of insensibility, bears him above all repulses, disappointments, and disasters. He meets the Assembly of Erfurt as resolutely as he met that of Frankfurt; and if there were many men of his character engaged along with him, we should not hesitate as to the issue.

There can hardly be a greater contrast in history than the aspect of the circumstances under which these two Assemblies come together. If that of Frankfurt was borne so high on the wings of hope that its fall was inevitable, that of Erfurt has been in imminent danger of being crushed before it dares to rise. The one, however, looks as though it might be a beacon over the deep of time, the other was as the burning of a prairie. The folly of democratic violence has, for the moment, placed at the discretion of governments much more than it is desirable should be so placed; and the essentially conservative and pacific character of the Erfurt project renders any appeal to popular excitement contradictory to the very terms of its existence. Will this one stable organisation rise above the confusions that still possess Europe, and demonstrate that there is no more instability in progress than in reaction? For mere Order, even that of the divine Cosmos, is in itself a barren thing — as barren as mere Liberty: each requires the breath of life to generate what is good and great, — and it is only to their coincidence and harmony that we can look for any permanent advantage to the societies of mankind.

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